The Journal of the American Medical Association

Published under the Auspices of the Board of Trustees.

VOL. XLVII. CHICAGO, ILLINOIS, AUGUST 11, 1906. No. 6.

Address

THE PEDIATRIC OUTLOOK.

CHAIRMAN'S ADDRESS IN THE SECTION ON DISEASES OF CHILDREN, AT THE FIFTY-SEVENTH ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION, BOSTON, 1906.

W. C. HOLLOPETER, M.D.

PHILADELPHIA.

In view of the full and interesting program of scientific business, your chairman's address will be brief. An attempt to outline recent progress in pediatrics would be, in a measure, but a repetition of the excellent digests offered to us by our many periodicals and year-books. A few remarks on the outlook for broadening the pediatric horizon, however, seem most timely.

The progress of our specialty in the last two decades has been stupendous. With the increasing number of physicians who are devoting their attention to the study of diseases of children, the multiplicity of special works and relative periodical literature and the extra facilities for special study, I can hardly realize that in my student days pediatrics was hopelessly entangled and practically lost in the chair of obstetrics. Then a special chair or clinic on diseases of children was practically unknown. Following in the wake of other specialties, pediatrics has gradually attained proper maturity and is second to no branch in energy, enthusiasm and progress, not only in the annual literary output, but in the teaching in the clinic and laboratory.

Slowly but surely the barriers against our professional progress have been overcome, and our fellow workers are sighing for other worlds to conquer. Diphtheria is now viewed with serenity since the acquisition to our armamentarium of antitoxin and antiseptics. Investigations into the cause, nature, means of dissemination and treatment of the exanthemata and other infectious diseases have done much toward confining their ravages and controlling their evil effects. In fact, in most intelligent communities any appreciable number of cases of measles or scarlet fever is viewed with reproach as the result of faulty domiciliary, school or public hygiene. Twenty years ago such cases and epidemics were looked on as unavoidable calamities.

Formerly a great factor in the increase of infant mortality was artificial feeding, and of those babies whose lives were spared many became scorbutic or rachitic defective, eventually entering the submerged half, helping to lower the average of national physique and intellect. To-day we possess a substantial and growing knowledge of food modification, percentage feeding and accurate adjustment of food to the individual child. This, with the increased appreciation among the laity of the laws of personal and domestic hygiene, enables us not only to save the lives of many children formerly helplessly lost, but in addition to guide them safely through childhood and youth to the ideal type of manhood and womanhood that follows proper nutrition and environment.

The mayor of Huddersfield, England, proposes offering prizes for yearling babies as an incentive for mothers to keep their infants alive. Without further effort such a scheme for the betterment of the nation will be of little value. We must not regard the mere maintenance of life as a boon accomplishment, but rather life with health. Satisfaction with the preservation of life alone leads to the physical deterioration that is rapidly increasing in England. The lower average in the stature and weight of army and navy recruits is, in a great measure, due to defective nutrition and insanitary environment in childhood. These conditions are the natural result of demagogic rule, ignorance, poverty, neglect and general physical, mental and moral degeneracy.

The elementary work in pediatrics has been well done. All honor to the sterling efforts of the pioneers, many of whom, I am proud to say, are active members of this section. We have given to the world positive factors for social betterment, but as we proceed and the importance of our work is fully realized our field greatly broadens, and at every step we find ourselves shoulder to shoulder with the workers in general sociology. And here, I think, I am justified in saying that there is no more vital touch to national life and spirit than that given by the citizen who has elected for his lifework the welfare of the child.

One of our future problems is the prosecution of a campaign of education for maternity. A troublesome obstacle that the pediatrist encounters to-day is the general ignorance and helplessness of the young mother. She may be skilled in letters, arts and sciences as a college graduate, but know little or nothing regarding the essential hygiene of early life. Trifling ills and errors long neglected may have serious consequences—even death. Instruction in the details of the baby's care and proper guidance in the study of home modification of milk is often the main function of the medical attendant, and a maternal mind previously prepared in hygienic instruction is a great help.

Municipal control of the problems concerning the health of the community leave much to be desired. Careless medical inspection in houses, schools and public institutions leads to a false sense of security. Reports of contagious diseases and quarantine measures are often enveloped in a tissue of falsehood. A veneering of noisy effort is made to stand for real work. So long as politics as a distinct profession remains on so low a plane in our cities, so long will crime and graft crush out young life and retard the advance of true hygiene. It is most appropriate that the voice of the pediatrist be heard in no uncertain tones in all discussions pertaining to public health. The establishment and enforcement of health protective laws for children will result in an uplifting of the health standards of the whole community. A

single instance is the insistence on a clean—not sterilized or pasteurized—but simply *clean* milk supply such as the health officer of Rochester, N. Y., demands.

Again, what enormous economic possibilities lie in the proper education and development of defectives! Heretofore our work for the betterment of child life has been largely to improve nutrition and environment. May we not logically extend our efforts toward regulating matrimony in a measure? We can not take literally the advice of Dr. Holmes to begin the education of the child with the grandparents, but we can use our efforts to prevent unsuitable marriages. Surely the province of pediatrics may properly include inquiry into the fitness of prospective parents for propagation of healthy offspring. We may not be ready for the practical adoption of the main features of the new science of eugenics, but at least we should have a judicial comprehension of its possibilities.

In a recent number of the *Nineteenth Century and After* Mr. Havelock Ellis argues strongly for placing matrimony on a scientific basis. In editorial comment on his remarks the *Philadelphia Ledger* says: "We are living in a scientific age, and a few earnest spirits, with ill success thus far, are endeavoring to save matrimony from the caprice, the sudden impulse, the mere chance venture, which are fraught with evil for the coming generation. The new movement is to be known as eugenics, or the science and art of being well born and of bringing the human race 'a step nearer toward perfection.'"

"Mr. Ellis is confident that eugenics, instead of being merely a 'beautiful scientific fad,' is beginning to present itself as 'the goal to which we are inevitably tending.' The University of London has appointed a competent investigator to the research scholarship of natural eugenics, endowed by Francis Galton, whose duty it will be to examine the history of the families and classes. This Mr. Ellis believes will make possible 'the attainment of eugenic ideals.' Eugenic registration and certification of personal facts, 'biologic and mental, normal and morbid,' are suggested as a guide to marital eligibility. The possession of such a certificate, Mr. Ellis thinks, would be a patent of nobility. 'The man or woman who held it would be one of Nature's aristocrats, to whom the future of the race might be safely left without further question.'

"Love laughs at locksmiths. The exponent of eugenics admits that it will also laugh at science, but he holds that matrimony is not wholly a matter of chance. Even the course of true love has its metes and bounds. Mr. Ellis informs us that investigations show there are certain definite matrimonial tendencies, that like are attracted rather than unlike, and that 'while some kinds of people tend to be married with special frequency, other kinds tend to be left unmarried,' a sufficiently scientific explanation of bachelorhood and spinsterhood. It is the province of eugenics to bring a selected class of the marrying kind together, and 'the eugenic ideal will have few serious quarrels with normal and well constituted lovers.' This may be a realized ideal, but the eugenically certified lovers will be comparatively few, and this brings us to the pressing question of race suicide, which has no terrors for Mr. Ellis. A falling birth rate 'is a great fundamental law of civilization,' and, recognizing this, the new ideal should begin 'to flash before men's eyes' the concept of quality rather than quantity.

"Eugenics fits beautifully with the tendencies of civilization, but it is far from being practicable at present. Matchmaking is a little too methodical when a eugenically certified lover is expected to search for a eugenically certified mate. Mr. Ellis is hopeful, however, and contends that human eugenics need not be a cold-blooded selection of partners by some 'outside scientific authority,' and that there will still be room for the free play of love. The argument for the betterment of the race through the eugenic selection of parents is forceful enough, yet somehow one lays aside the contribution feeling that humanity is not prepared for the departure. Indeed, Mr. Ellis confesses rather despairingly at the close that it is a matter 'of accepting an ideal and of exerting our personal and social influence in the direction of the ideal.'"

Original Articles

SOME UNHEEDED PRINCIPLES INVOLVED IN THE DIETETIC MANAGEMENT OF INFANTS DURING HOT WEATHER.*

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NEW YORK.

Before the management of infants during the heated term can be placed on a scientific basis the principles on which such management should be based must be ascertained. The normal processes and requirements of the infant during warm weather should be clearly understood and also how these processes may be deranged and the requirements met under different conditions.

Specially prepared foods, special percentage mixtures, sterilization and pasteurization have been offered as the solution for summer digestive disturbances. Recently a specific organism has been held accountable and a specific serum has been suggested as a possible curative agent, but still the problem confronts us.

The real progress that has been made in the treatment of summer cases has not been the result of specific medication or of specific feeding, but has come from close attention to diet and care. Kerley has shown clinically what can be done in reducing infant mortality by careful management and has done pioneer work in a new territory which has not yet been surveyed and mapped. Park and Holt[1] have reported as the result of their investigations that care was fully of as much importance as food in the reduction of sickness and death among infants in summer, or, to use their own words: "It was practically the unanimous opinion that the most important factor in securing good results is intelligent care." In speaking of the poorer results obtained in feeding in summer than in winter they say: "There seem to be many factors, but a consideration of the facts accumulated indicate that heat is the primary factor and that bacteria and their products are a secondary one, except when the contamination is extreme or pathogenic organisms are present." Therefore it will repay us to know the physical and biologic principles on which the care and feeding of infants during hot weather are founded. If these can be determined and decided on any one can apply them and a campaign of education will help solve the problem.

* Read in the Section on Diseases of Children of the American Medical Association, at the Fifty-seventh Annual Session, June, 1906.

1. Park, W. H., and Holt, L. E.: "Report on the Results with Different Kinds of Pure and Impure Milk in Infant Feeding in Tenement Houses and Institutions of New York City: A Clinical and Bacteriologic Study," Archives of Pediatrics, December, 1903.

As is well known, the food during all seasons, summer and winter, is composed of fats, carbohydrates, proteids, mineral salts and water, and no matter what form the food may have it must contain all these elements if it is to sustain life continuously. But there is another very important, although intangible, ingredient embodied in the fat, carbohydrates and proteids, and that is energy, which plays an essential part in the life processes.

Physiologic study has taught us that the waste products of food are excreted as feces, the oxidation products as carbondioxid and water from the lungs, and that the end-products of proteid metabolism are eliminated as urea, etc., by the kidneys. As physicians we have learned to pay close attention to these excretions, for we know what profound disturbances result from their retention, but we have not yet clinically recognized the fact that all the utilized energy of the food is transformed into heat and as such must be eliminated. Heat is an excretion of the body as truly as urea is, and it has been calculated that if no heat were to be excreted for twenty-four hours the body would be at a pasteurizing temperature. All the urea might be retained for some hours without serious discomfort, but retention of the heat of the body for a brief period produces great distress and depression, as any one can determine by wrapping up in a thick woolen blanket on a warm, sultry day. The blanket itself is not hot, but, being a non-conductor, it prevents the body heat from escaping. A few hours of heat retention might result in death, so the importance of the excretion of heat will be appreciated.

A certain amount of heat is needed to maintain the normal body temperature, but all above this quantity can not be utilized and must be excreted. In the winter and spring months the air is so cool that there is no difficulty in the heat passing off; in fact, it passes off too rapidly and heat-retaining clothing is needed, but in the summer months the excretion of heat is not always an easy matter, and the production of heat should be reduced as much as possible, for, to quote Park and Holt again, "the depressing effects of great atmospheric heat, i. e., a temperature in the neighborhood of 90 F. or over, were very marked in all infants, no matter what their food."

HOW BODY HEAT IS PRODUCED.

The energy expended in transforming food during the digestive processes and in its metabolism is liberated as heat. The more difficult of digestion the food is, the more heat is produced, and for this reason light and easily digested food is enjoyed in summer and a repugnance is felt for hearty meals. All the energy needed to keep the heart going and in moving the arms, legs, etc., passes off as heat. Therefore to keep down the production of heat, light, easily digested food and a minimum of body activity are essential.

It has been taught that a food should be judged by the amount of heat it can produce, or, in other words, the number of calories it contains. As has been shown above, only a small part of the heat produced from the food is needed to maintain body temperature in the summer time, and as the body can not utilize heat as such it is clearly fallacious to attempt to fix any standard for the number of calories a diet should invariably contain, or to judge a food by the amount of heat it will produce. Food is valuable only in proportion to the amount of energy the body can realize from it after deducting the amount expended in its digestion and assimilation.

According to Rubner, 31 per cent. of the energy of proteids is consumed in their digestion and assimilation and liberated as heat; 12.7 per cent. of the fat and 5.8 per cent. of sugar, while Armsby[2] states: "The consumption of a small amount of easily digestible carbohydrates, for example, would result in a relatively small heat production, while a large quantity of proteids would greatly increase the loss of energy in this way. At low temperatures this additional heat production may be an advantage, enabling the well-fed organism to withstand cold better. At high temperatures, on the other hand, this additional heat may become oppressive or even dangerous by adding to the amount of which the organism must dispose. A large consumption of difficultly digestible food renders the man or animal less able to endure hot weather, and presumably more liable to those disorders resulting from overheating. Furthermore, proteid foods being those which cause the greatest production of heat, their amount in the diefary should be reduced to the minimum necessary for maintenance if it is desired to limit heat production, their place as a source of energy being supplied by the carbohydrates and fats. In brief, then, the food value of a nutrient as a source of energy to the organism is not measured by the total energy which it can liberate as heat in the body, but by the part of this energy which is available to the organism for physiologic uses. The remainder of the 'fuel value' simply serves to increase the generation of heat in the body, a result which may be advantageous or the reverse, according to the surrounding conditions."

In a few words, nearly one-third of the proteids of the food is used in preparing the other two-thirds for the body, and when proteids are used to supply energy they produce about five times as much heat as the quantity of carbohydrates needed to produce the same amount of energy would liberate.

HOW HEAT IS EXCRETED.

There are three ways in which body heat is excreted: (1) By conduction, due to contact with colder substances; (2) by radiation, as when the heat passes off into the air; (3) by evaporation of perspiration, by which the sensible heat is rendered insensible or changed into latent heat, as is well explained in the text-books on physics. In the winter and in the cool months of spring and fall, when there is quite a difference between body temperature and air temperature, radiation will carry off the surplus body heat as fast as it is produced, but as the weather becomes warmer the difference between the temperature of the air and that of the body lessens, and sometimes there is not only no difference between them, but the air temperature is higher than body temperature. In such cases heat excretion by radiation is slow or even impossible, and body temperature would rise above the normal unless some method of getting rid of the heat besides radiation were at hand. To meet this condition Nature has provided that when radiation is insufficient sweating comes into play and evaporation of perspiration is a most efficient remover of body heat.

Again, we remember that when water passes into the state of vapor it absorbs a large amount of heat without raising its temperature. Thus it takes as much heat to change one pound of water at 212 F. into steam at 212 F. as it would take to raise about five pounds of water

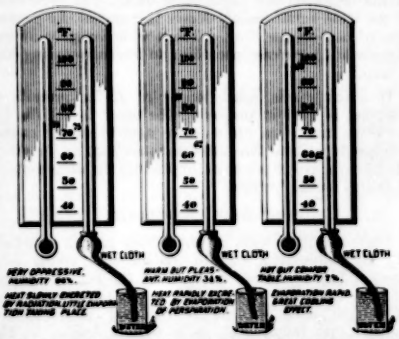
2. Armsby, Henry Prentiss: "Heat and Food Values." Archives of Pediatrics, February, 1905.

from the freezing point to 212 F. In other words, about 1,000 degrees Fahrenheit of heat are rendered insensible when boiling water changes into vapor.

Evaporation of water and absorption of heat take place at all temperatures above freezing point, but the amount of heat which is absorbed depends largely on atmospheric conditions and not alone on the warmth of the air.

For every degree of temperature a maximum amount of evaporation of water can take place, which is reached when the air contains all the water vapor it can retain. The humidity then would be 100 per cent. When this point of saturation is reached, no more evaporation can take place, and consequently no more heat can be rendered insensible, and all know how nearly intolerable living is on warm days with high humidity. The discomfort is due to heat retention.

For determining relative humidity or the degree of saturation of the air with water vapor, two thermometers are used, one of which has its bulb covered with a muslin cloth that dips into water and acts like a wick. The bulb is thus covered with a damp cloth, which is exposed to the air, so that the water can evaporate. As the water evaporates it absorbs heat and reduces temperature and the mercury drops in the thermometer. When the



air is dry and warm, evaporation takes place rapidly, and consequently there is rapid absorption of heat, and a very great difference between the height of the mercury in the dry thermometer and in the wet bulb thermometer is produced; but if the air is damp and humid, evaporation is slow and little or no heat is absorbed or rendered insensible, and the two thermometers read nearly alike. From the difference in readings between the two thermometers the relative humidity of the air may be determined from exhaustive tables that have been prepared. The thermometers should be fanned before reading, as the air near them will be nearly saturated with moisture unless it is kept in motion. Evaporation is also very much retarded by salts in solution and by the presence of fat or oil, which has an important bearing on the evaporation of perspiration which deposits salt and fat. A relatively low summer temperature with high humidity is more trying than a much higher temperature with low humidity, because not enough heat excretion can take place with high humidity and moderate temperature, while with low humidity and high temperature the excretion of heat is extremely rapid, paradoxical as this may seem.

The above illustrations will make this clear.

One morning in the middle of May, 1905, the air was oppressive and it seemed very warm and exertion was discomforting. The air temperature was 76 F. and the wet bulb thermometer stood at 75 F. The humidity was 96 per cent. and little evaporation was taking place, as the air was nearly saturated. During the day the temperature of the air rose eleven degrees, or to 87 F., but the afternoon was delightful and bracing, and no inconvenience was experienced in moving about briskly. While the air registered 87 F., the wet bulb thermometer stood at 67 F., or twenty degrees lower. The humidity had dropped from 96 per cent. to 34 per cent. and the absorption of heat was very rapid, so no discomfort was felt. At night this process may be reversed, for as the air cools its capacity for holding water vapor decreases and the relative humidity increases as the temperature falls. Hence one may become warmer as the air becomes cooler if the humidity increases.

That high temperature alone does not necessarily cause suffering or even inconvenience may be judged from the report of Prof. Francis E. Lloyd[3] of a visit to the Desert Botanical Laboratory at Tucson, Ariz., in which, speaking of the heat, he says: "About this factor much misapprehension is abroad. To be sure, the mercury stands high and a registration of from 100 to 105 F is not at all unusual; occasionally it is even higher, and doubtless if one did not forget to look at the instrument still higher temperature could be discovered. Fortunately, this is just what one does. There is so little discomfort attendant on the heat that it is usually quite disregarded, a condition, happily, due to the low relative humidity, which on many occasions during six weeks in July and August of this year ran down as low as 7 per cent." With only 7 per cent. humidity and the temperature of the air at 100 F. the wet bulb thermometer would register only 68 F., a difference of thirty-two degrees due to the rapid evaporation of the water.

From the foregoing it will be plain that the temperature of the air is not a safe guide to follow in judging summer conditions, and that in one locality the climate might be salubrious with a temperature of 90 F., owing to the low humidity, while in another place the mercury might be standing only at 85 F. and yet the heat be intolerable on account of the high humidity. In the locality of high temperature there might be very little digestive disturbance due to heat and in the place where the temperature was lower a great many cases might be found. In the one instance the body heat could be excreted easily and in the other with difficulty, owing to the difference in humidity. Much heartier food could be taken soon after an attack of digestive disturbance in the hot, dryer locality than in the cooler and more humid situation. It is undoubtedly due to such differences of conditions that observers in different parts of the country report so differently as to what is the best method to employ in managing the diet after an attack of summer diarrhea. Some have stated that a diet of light carbohydrates and a small amount of proteid in the form of gruel should be given, cautiously adding milk as improvement sets in, and that it might be necessary to continue this light diet, which is one that produces the minimum amount of heat, for some time, or even all through the summer; others have reported that they had no difficulty at all in getting the infants back on milk mixtures after the infected food had been removed. In all probability both sets of observations are correct, but

3. Popular Science Monthly, February, 1905.

as the conditions of climate were probably different there is no justice in comparing them or in quoting one against the other.

One thing will be suggested to all who note what a chilling effect moist clothing has when exposed to the air so that evaporation can take place, and that is the importance of having light, loose woolen garments next to the infant's skin and especially over the abdomen. Wool is a poor conductor of heat and allows the heat to be excreted gradually, while cotton allows it to pass off rapidly. Imagine the effect on an infant having on cotton clothing wet with perspiration if it was suddenly taken out where the wind was blowing even moderately on a hot, dry day, when the temperature stood as high as 100 F., higher than the body temperature. That cotton clothing would be cooled down to 62 F.; there would be a vasomotor contraction of the capillaries; the blood would be sent rushing to the distended cells of the lining of the intestines; an increased secretion of mucus would result and a diarrhea would set in. This might take place also in a humid locality when a breeze struck the wet child, for even on humid days a breeze will increase the evaporation and somewhat reduce the temperature.

The diarrhea will probably quickly respond to treatment if there is no food infection, which there is not likely to be if the infant has been well nourished and has not become depressed. But if the conditions are high heat and also high humidity, it is more than likely that there will be a food infection, for heat will not be excreted sufficiently and heat retention produces great depression and retardation of digestion. The infant has need for very little, if any, food on warm days when the humidity is great. The child is having all that it can do to excrete the heat generated by the processes of living and will be overburdened if it is called on to eliminate the additional heat liberated as a result of the digestion of food, which is considerable. Under such depressing conditions there will be a retardation of the digestive process and the undigested food will probably commence to decompose and a poisoning process be set up.

Sterilization or pasteurization of the food will not overcome this condition, for the intestine is not free of bacteria and they will attack sterile food. Care must be used in selecting food that will not allow the production of poisons, and such food should be given until normal feeding can be brought about.

If a piece of meat and a solution of sugar are placed in a warm room the meat will become putrid and the sugar solution will sour. Both of these changes are brought about by bacteria, and both the sugar solution and the meat are exposed to the same conditions. The putrid meat would be poisonous, while the sour sugar solution would be harmless. If the meat has been placed in a solution of sugar it would not have become putrid, although the sugar solution would have soured. This is a homely illustration of what has been proved in the laboratory; that products of bacterial decomposition of proteids are poisonous and that carbohydrates in the food protect the proteids from attack by bacteria. The bacteria that thrive best on carbohydrates crowd out of existence bacteria that feed on proteids, and their products are mostly harmless. It is useless to expect to find a specific form of bacterial infection or to follow only one plan in dealing with the bacterial problem. It is practically impossible to keep the infant's surroundings sterile, as the floors and other things on which dust settles are a handy means of infecting him, and the types of organism that are present in the air vary with the humidity. In dry weather bacteria predominate; in humid weather, yeast organisms.

The only feasible way to handle the matter is to select the food so as to let a set of harmless bacteria develop and kill off the harmful kinds. This is the principle that is being adopted now in destroying various insect pests. Find the natural enemy and put it to work.

From a consideration of these facts it is evident that a universally satisfactory food or set of rules for feeding are not likely to be produced, because conditions vary so much, and physicians should direct their efforts to studying conditions that call for different kinds of foods and the principles involved in care of infants according to relative humidity.

SUMMARY.

1. In warm weather keep a light woolen garment over the abdomen to prevent sudden chilling of the skin and consequent retention of heat by suppression of perspiration.

2. Bathe the infant twice daily to remove fat and salts left by the evaporated sweat. These retard the evaporation of perspiration and thus partially prevent heat excretion.

3. Give plenty of cool boiled water to drink, so as to replace water lost as perspiration.

4. Pasteurize food of all well infants to retard decomposition.

5. If the weather is close or muggy, or the humidity is high, dilute the food to one-half with boiled water. In very humid weather with high temperature stop milk altogether and feed gruels until the humid condition is passed.

6. On warm, humid nights do not give milk feedings, because the humidity is higher at night than in the daytime, although the temperature may be lower. Feed gruels or whey, which produce little heat.

7. For diarrhea give castor oil or calomel to eliminate decomposing food. Stop all milk feedings temporarily. If the air is hot but dry, milk feedings may be resumed soon. If there is high humidity, feed gruels or whey to reduce heat production and also to starve out putrefactive bacteria, and very cautiously get back to milk feedings.

8. Provide a circulation of air, as stagnant air soon becomes saturated with water vapor and no more perspiration can evaporate and absorb heat.

DISCUSSION.

Dr. R. W. Hastings, Brookline, Mass., with reference to having cool dry air for the children, said that in the Boston Floating Hospital for children there is a plant costing about $10,000 the object of which is to freeze the moisture out of the air and then to warm the air to the necessary degree for the ward; that is, to bring into the ward an atmosphere of 70° with a humidity of 50. To get lower humidity than that is possible, but would cost a great deal of money. The babies in that hospital are benefited, not only by the care they get but by being put into an atmosphere that is dry and cool; and a mortality has been maintained of 10 or 15 per cent. lower than that reported by Dr. Holt. So far as Dr. Hastings knows, no other hospital in the world has such an "atmospheric plant."

Dr. Thomas Morgan Rotch, Boston, does not agree entirely with the extent to which Dr. Pisek carries his remarks. As a rule babies are not taken off of breast milk because of humidity, and he thinks that a sudden change in food, even if there is a change of temperature, would often be quite disastrous if the baby is doing well on the milk it is getting.

DR. ARTHUR W. FAIRBANKS, Boston, said that he has several times transferred sick children on his service on the Boston Floating Hospital from the ordinary ward to the wards whose atmosphere was cool and freed from excessive moisture and has seen marked improvement follow the change. The improvement to be sure has sometimes been only temporary, but frequently it has been permanent. His experience very decidedly substantiates Dr. Pisek's views in regard to the influence of temperature and the degree of humidity on the occurrence and course of disease in young children.

DR. G. R. PISEK, New York, said that this paper in a measure may answer some of the questions asked of Dr. Northrop concerning his out-of-door treatment—whether the good effects are due to the oxygen or to the cold air? In winter, the humidity is less and the circulation of air greater. We can absorb just so much oxygen and it does not make much difference whether we give compressed air or forced oxygen to children; but the out-of-door-air plus the cold or the lowered humidity is perhaps that which gives the good results in the winter as against the summer. In the use of the salines in fever, spoken of by Dr. J. Madison Taylor, the fever may be reduced by the evaporation of perspiration induced and the results show the good effects of the salines. Dr. Pisek said that he is glad to know about the cooling plant of the Boston Floating Hospital. He thinks that this is just the thing needed in solving the problem of taking care of sick children in summer. Relative to Dr. Rotch's remarks about taking the children off of milk feeding, he said that he has noticed that they do not nurse so long in the hot summer days and that giving them sterile water before nursing has seemed to benefit.

INDICATIONS FOR SURGICAL INTERVENTION IN INFECTIONS OF THE BILIARY TRACT.*

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Prolonged experience with diseases of the biliary tract has convinced clinicians of the truth of the statement made by Terrier that the origin of all such diseases is in some form of bacterial infection. The exhaustive studies of Naunyn, showing the invariably infectious origin of gallstones, have led the way to appreciation of the second important truth, that the calculi are merely an incident of the disease, and are by no means universally present in diseases of the gall bladder and the bile ducts. The statistics of my own cases[1] correspond in this respect very closely with those of other surgeons. Of 216 patients, 34, or 15.8 per cent., had no gallstones.

In conjunction with this fact it should ever be borne in mind that many, possibly a majority of the attacks of biliary colic are not due to the acutal passage of gallstones, but rather to a spasm of the gall bladder caused by acute cholecystitis in the presence of ducts constricted by inflammatory swelling. Kehr has spoken very positively on this point, and has even gone so far as to produce biliary colic experimentally in his patients, after operation, by injecting their gall bladders through the cholecystostomy wound and finding that acute over-distension of the gall bladder causes precisely those symptoms which have been known for generations as characteristic of biliary colic. I have repeatedly seen this occur when washing out the gall bladder through the cholecystostomy sinus. It is noteworthy that of 161 of my own patients who had colicky pains, no less than 24, or 14.9 per cent. had no gallstones; and of 45 patients who had non-colicky pains, 10 or 22.3 per cent. had no calculi—in other words, of 206 patients with pain, 34, or 16.5 per cent. had no calculi.

Although gallstones are excessively prevalent (Kehr says every tenth adult body exhibits them) yet they do not, fortunately, in every case produce symptoms. If this were not the case, "every theater, every church, every concert-hall," as has been well said, "would resound with lamentations" from patients suffering with this disease. And hence even the most enthusiastic surgeons must recognize that every patient does not require operation. Kocher[2] very pointedly says that gallstones do not "belong" to the surgeon. As he remarks: "They belong in the first place to the patient, and if he prefers to retain them and to drink Carlsbad waters as well, he is quite within his rights to adopt this method, a line of treatment which, as is well known, is followed even by many surgeons when they themselves have gallstones." In the same way Kocher continues: "If a patient prefers to wait in suffering and pain for a stone to work its way down *per vias naturales*, he is but enjoying his personal privileges. But at the present day the surgeon is certainly justified in telling a patient with gallstones that by an operation he can be quickly and safely cured of his trouble and be saved from eventual danger more rapidly and more easily than by any other treatment."

It is, then, one of the most important functions of the surgeon to decide which patient shall and which shall not be urged to seek relief by operation, and while there are certain indications which are universally recognized as pointing one way or the other, there still remain enough disputed points to provoke interest and instructive discussion.

I am in favor of removing gallstones in every case in which they are known to be present, provided, of course, that there are no contraindications which would render any operation injudicious. But when operation is done in the early stages of the disease, when inflammatory changes are merely catarrhal in character and the stones are confined to the gall bladder, the operation is so free from risk and the results are so satisfactory that it appears to me to be courting disaster to postpone surgical intervention in the hope that the symptoms will subside and never again recur. Dr. Kelly's statistics show that among my 216 patients, 138, or 63 per cent., had had previous attacks of jaundice; and, as jaundice is an unusual rather than a customary accompaniment of biliary infection, it is evident that there must have been more than one attack of biliary infection in the vast majority of patients, though I regret that I have no figures to offer on this point.

When I state that I consider the presence of gallstones an indication for operation, other things being equal, I do not mean to include in this category the large number of cases of non-calculous cholecystitis which are constantly seen by the physician. When a patient is seen with a frank attack of acute cholecystitis which does not subside under judicious medical treatment pursued for from thirty-six to forty-eight hours, I think that then the safest course is to do a cholecystotomy at once; this is especially true if the attack is not the first, and it is to my mind nearly imperative if we believe from the history that calculi also are present. But when the cholecystitis is mild in character and

* Read in the Section on Surgery and Anatomy of the American Medical Association, at the Fifty-seventh Annual Session, June, 1906.

1. I take this opportunity to express my indebtedness to Dr. A. O. J. Kelly, pathologist to the German Hospital, for permission to use the statistics and other material presented by him in the Mütter Lecture of the College of Physicians of Philadelphia, for 1906, which is based on the records of 216 patients with infections of the biliary tract operated on by me at the German Hospital.

2. "Text-book of Operative Surgery," London, 1903, p. 225.

yields promptly to medical treatment, and the patient is having his first attack, then I think operation may well be postponed until further symptoms arise. Calculi are probably absent in such mild cases in early attacks, and although it can not be denied that gallstones may form in the course of a comparatively few hours, yet such patients seem to me particularly suited for the so-called Carlsbad cure. Patients in the poorer classes, of course, can not go to Carlsbad for the cure, and many others may be unwilling to go further than Saratoga, the Virginia Hot Springs or the Bedford Springs of Pennsylvania, the Carlsbad of America; but even those who can not leave home can drink the waters and can regulate their diet and their bowels so as materially to improve their general health.

When the attacks of cholecystitis are repeated, and especially when discomfort persists in the intervals, operation is demanded to obtain a cure. The frequency with which mild but recurrent attacks of cholecystitis give rise to pericystic and pyloric adhesions is not duly appreciated by the profession. Many a patient who has suffered once or twice from mild attacks of catarrhal jaundice, so-called, without evident implication of the gall bladder, will be persistently troubled by periods of anorexia, of flatulence or of actual nausea; and in time gastric or duodenal ulcer will appear, often enough, I doubt not, engrafted on a stomach whose motility has been seriously hampered by adhesions originating in disease of the bile passages. Only recently I removed the greater portion of the stomach from a woman whose gastric cancer was engrafted on a chronic ulcer, this being only one of other cases of the kind occurring in my experience, and from the perigastric adhesions and from the presence of a gall bladder completely filled with gallstones, in addition to a large stone in the common duct, the inference was clear that the bile ducts and the gall bladder were in her the starting place of the whole series of lesions in the upper abdomen. The gall bladder and the common duct were opened, the calculi removed and the gall bladder and common duct drained by a stab in the right semi-lunar line, permitting complete closure of the wound through which the operation had been done. Recovery and freedom from digestive disturbances followed.

In the later stages of gall-bladder disease operation is almost invariably demanded, but so long as the serious lesions are confined to the gall bladder the mortality due to the operation is small. In hydrops of the gall bladder, cholecystectomy is required, since obliteration of the cystic duct renders the gall bladder not only useless, but a continued menace from the liability of reinfection or even of rupture. Empyema requires cholecystectomy only when of long standing, with the result that the cystic walls are irreparably diseased. If the empyema be acute, drainage of the gall bladder suffices, and in cases of doubt cholecystostomy is to be preferred to the more serious operation. Gangrene of the gall bladder naturally requires its excision, and the same is often true of perforation, since this latter condition occurs most frequently when the gall bladder walls are extensively diseased.

When we come to a consideration of patients in whom gallstones are believed to exist we have to do with a much more serious disease. If the calculi can be removed by operation before they have had a chance to wander from their natural habitat—the gall bladder—the patient is to be considered greatly favored. The operation then is no more serious than that for non-calculous cholecystitis. But when a stone descends into the cystic duct, and still more when it is blocked in the common duct, or if by chance one lies in the hepatic duct, then must the patient be considered in serious danger. The mortality of operations from these conditions is markedly higher than that of operations for disease confined to the gall bladder; but as the disease under the former circumstances is, without operation, very much more fatal than is the operation itself, no conscientious surgeon can hesitate to recommend the latter form of treatment.

In spite of the very positive evidence which is now available of the futility of the attempt to dissolve biliary calculi by internal medication, there are still some who employ olive oil with this object in view. As Dr. Kelly in his lecture well says: "We now know that the thousands of gallstones said to have been passed by the bowel after the administration of olive oil and similar preparations are merely masses resembling gallstones in outward appearance and due to the basely deceptive powers of the olive oil acquired in its passage through the intestinal tract." And it is to be remembered that not only are the stones commonly multiple, but many of them are so large that their passage through the ducts is a physical impossibility; and although in long-standing cases of cholelithiasis large calculi are occasionally discharged into the bowel by way of cholecysto-enteric fistulæ or into the stomach by way of a cholecysto-gastric fistula, yet any physician who would anticipate with pleasure such a solution of the difficulty would be more fit for medieval days of alchemy than for those of modern medicine or surgery. Even when such a calculus has passed into the intestines it may still be provocative of intense mischief, and by causing intestinal obstruction may necessitate a far more serious operation than would have been the prompt removal of the calculi from the gall bladder and drainage of the infected area. Dr. A. C. Wood,[3] of Philadelphia, only about a year ago collected twenty-two operations for intestinal obstruction by gallstones, and at least five (Michon, Gordon and Wright, Smith, Milward, Powell) other such operations have been recorded since that time. Korte[4] observed fifteen such cases among about 500 patients operated on by him. My experience embraces two cases of obstruction of the small bowel by gallstones. Moreover, even were all the calculi to be safely passed through the intestine by medical means, the infection of the gall bladder would in most cases not only persist, but would soon cause the formation of other calculi, and the last state of that patient would be as bad as his first.

The underlying condition in all cases of cholelithiasis is the infection, and until physicians can combat that as successfully as surgery does, the less they have to do with acute complications of gallstone disease the better. As Dr. Kelly points out in his Mütter lecture, "the favorable results of medicinal treatment in the vast majority of instances by no means indicate the cure of the disease, but merely the restoration of latency"—and, although this is "by no means an undesirable achievement," it is far from the *summum bonum*, which can only be attained by operative means. I can not refrain from calling your attention to the fact, however, that cholelithiasis can remain latent until Nature places the patient asleep in the everlasting rest of the grave.

The greater safety of operations during the latent stage of disease in the upper abdomen is as noticeable

3. Amer. Med., 1903, vol. i, p. 779.
4. Beitr. z. Chir. d Gallenwege u. d. Leber, Berlin, 1903, p. 200.

in cases of calculi impacted in the bile ducts as it is in those done during the intervals of gastric hemorrhage, and hence it is that when acute impactation of a calculus occurs in the common duct surgeons by almost unanimous consent prefer to postpone operation until the event of the attack is assured. If the calculus, as sometimes happens, successfully passes into the duodenum, immediate operation is unnecessary, and in the majority of instances the calculus, if not thus disposed of, rests at ease in the common duct, causing intermittent obstruction and making its presence known by a fairly well-recognized group of symptoms. In this stage of the disease the offending stone can be removed with the least danger to the patient and the greatest satisfaction to the surgeon. The operation, which often involves tedious dissection and may consume considerable time, can then be done with deliberation and thoroughness—matters that are not always characteristic of operations on patients who are acutely ill.

In chronic impaction of a stone in the common duct the surgeon should not delay operation long. The varying size of the liver should be attentively watched and surgical intervention should never, if it can be avoided, be postponed until atrophic cirrhosis has set in. It is well known that such patients stand any operation much more badly than do those in whom the liver is enlarged.

Without entering in detail into the technic of operations for removal of stones from the common duct, I desire to protest against the indiscriminate resort to cholecystectomy in cases in which the gall bladder is not irretrievably diseased, but in which the surgeon may consider it a useless appendage. When a calculus is removed from the common duct I think retention and drainage of the gall bladder a very valuable adjunct to the after-treatment. When prolonged drainage is desirable—and in these patients it frequently is—the gall bladder can be stitched to the parietal peritoneum or even to the sheath of the rectus muscle, and thus a biliary fistula will be maintained long enough to drain the smaller hepatic ducts and to restore the patient to health. When the gall bladder is removed, apart from the increased immediate danger of infection and hemorrhage, drainage of the liver can not be so thorough as it is when the gall bladder is attached to the abdominal wall, and serves as a drainage tract in addition to that provided by a tube in the common duct at the site of the choledochotomy. When the infection has traveled beyond the gall bladder and involved the hepatic ducts, or if the cystic duct is very much infiltrated, it is my practice not to content myself alone with drainage of the gall bladder, but to drain the common duct as well. Exposure and drainage of the common duct (in the majority of instances) I do not consider a difficult or dangerous procedure, yet it should be only judiciously done. Thorough operation alone can suffice to accomplish a cure; therefore incision, digital and instrumental examination to determine that the ducts are clear of any possible obstruction is required in not a few cases. Makeshift operations have no place in dealing with affections of the biliary apparatus.

In spite of his wishes, the surgeon is occasionally forced to operate on patients with acute impaction of a stone in the common duct. Perhaps, instead of the term impaction, the expression absolute obstruction would be better, since the condition may have persisted for some days, and hence be no longer technically acute. When a patient presents the history and usual symptoms suggestive of acute impaction in the common duct, and has in addition evidences of progressing infection, such as persistent jaundice, intermittent fever and sweats, the only chance of salvation frequently lies in immediate operation. And yet the mortality of such operations is appallingly high. The acute hepatic infection, evidenced by enlarged, tender liver, by the jaundice and the fever, is a serious condition in itself, and the danger of hemorrhage in these patients adds to the seriousness of the case. Even with energetic stimulation and the routine adminstration of calcium chlorid (gr. 10 every four hours) for a day or so before operation, and the continued administration of this drug in larger doses by the rectum after the operation, many a patient dies from uncontrollable capillary oozing before the period when death from sepsis is to be feared. I question if calcium chlorid does any good, as the patients I have lost all had the benefit of this drug. I may remark, however, that the fatalities from hemorrhage occurring in my hands have not been the jaundice of gallstones, but the jaundice of advanced pancreatic disease, particularly carcinoma, too often the result of gallstone disease.

Not only do dangers such as these threaten in the biliary tract, but the pancreas may also be involved. There is good reason to believe that acute pancreatitis is often caused by impaction of a calculus in the diverticulum of Vater, by which means the infected bile is dammed back into the pancreatic ducts, and when a calculus is impacted only a little higher, so as to occlude the duct of Wirsung by pressure only, and thus merely hinder the outlet of the pancreatic secretion without forcing the bile up the pancreatic duct, we often have chronic pancreatitis as a result. The reason that calculi so impacted do not oftener cause disease of the pancreas is because in two-thirds of cases there is an accessory pancreatic duct (duct of Santorini), and in 10 per cent. of patients the common bile duct and the duct of Wirsung empty into the duodenum by separate orifices. In the cases these anatomic factors are not present, operation, serious as it is, is urgently demanded not alone by the cholangitis, but by pancreatic involvement as well.

The well-to-do patients suffering from chronic impaction of a calculus in the common duct may be able and willing to take the risk, which should be explained to them, of postponing operation until the Carlsbad cure has been tried. But the patients who can not afford such luxuries can not afford to lose any time waiting for a cure by any other means, and should be operated on at once. By taking the Carlsbad cure once every year certain persons will succeed in restoring a certain degree of latency to the cholangitic symptoms; but if these symptoms recur in spite of such treatment, further palliation will be practically useless.

As to the frequency with which calculi are found in various parts of the biliary apparatus, the figures appended to this article, taken from Dr. Kelly's statistics of my patients, may prove of interest.

Out of 182 patients with calculi there were 153 (or 84 per cent.) who had stones in the gall bladder, of whom 52 had stones elsewhere as well; there were 31 (or 17 per cent.) who had stones in the common duct, of whom 12 had stones nowhere else; there were 17 (or 9.3 per cent.) who had stones in the cystic duct, of whom 11 had stones nowhere else, and there were only 9 (or 4.89 per cent.) who had stones in the hepatic duct, and all of these patients had stones in the common duct and in the gall bladder as well.

Fnnally, there are several matters of interest in regard to typhoid cholecystitis. Among the 216 patients whose cases Dr. Kelly had studied, there were seven (all women) from whose gall bladders the typhoid bacillus was isolated. "In four no history of previous typhoid nor of concurrent typhoid fever (in the commonly accepted sense) could be obtained." When the symptoms of acute cholecystitis occur during the course of typhoid fever the question of operative interference naturally arises, but in most cases I think it is wise to treat these patients medically unless very positive evidence exists that the cholecystitic process has gone on to suppuration or to some more serious complication.

Not infrequently an enlarged and tender gall bladder can be detected during typhoid fever without there being any subjective signs of cholecystitis. And as it is extremely probable that the typhoid bacilli invade the biliary tract in nearly every case of typhoid fever, the only wonder is that this disease has not heretofore assumed more importance as a predisposing cause of cholecystitis and gallstone formation. I do not know what proportion of patients with infections of the biliary tract give a history of previous attacks of typhoid fever, nor whether the incidence of gallstone disease is greater among such individuals than among the populace at large, but it certainly seems that it will be important for us in the future to inquire into these matters. Patients who have given evident symptoms of biliary involvement during typhoid fever should, if possible, be operated on by cholecystostomy after their recovery if any symptoms persist. Not only may serious future disease be thus prevented in the patients themselves, but the dissemination of typhoid infection from their intestinal tracts will be more effectually prevented. Drainage to accomplish good in infection of the biliary tract must be instituted early and be prolonged. It is in this class of cases in particular that I insist on and carry out tubage, not only of the gall bladder, but of the common duct as well. The mortality after the use of tube in the common duct is no greater in my hands than is that of the gall bladder.

I append the statistics as compiled by Dr. Kelly of the 216 cases referred to as operated on in the German Hospital:

DR. KELLY'S STATISTICS.

Of 216 patients:
182 (84.2%) had gallstones, and
34 (15.8%) had no gallstones.

Of 182 patients that had gallstones:
101 (55.5%) had stones in gall bladder alone;
23 (12.5%) had stones in gall bladder and cystic duct;
19 (10.5%) had stones in gall bladder and common duct;
12 (6.6%) had stones in common duct alone;
11 (6.0%) had stones in cystic duct alone;
5 (2.8%) had stones in gall bladder, cystic, hepatic and common ducts;
4 (2.2%) had stones in gall bladder, hepatic and common ducts;
1 (0.6%) had stones in gall bladder, cystic and common ducts;
2 (1.1%) had stones in adhesions (not otherwise specified);
4 (2.2%) had stones in regions not definitely specified.

Of 216 patients:
58 had no stones in gall bladder, and of these
23 had stones in the ducts;
41 had stones in common duct, and of these
12 had stones nowhere else;
0 had stones in hepatic ducts (as well as elsewhere).

Of 216 patients:
123 (56.9%) had adhesions about gall bladder;
22 (10.1%) had no adhesions, and of
71 (33.0%) there is no note in the case histories of presence or absence of adhesions.

THE PAINS.

Of 216 patients:
161 (74.5%) had colicky pains;
45 (20.8%) had non-colicky pains;
7 (3.3%) had pain not accurately described; and
3 (1.4%) had no pain whatever (one was markedly jaundiced, and the other two had fever, 100 and 104.6 respectively).

Of 161 patients that had colicky pains:
137 (85.1%) had gallstones, and
24 (14.9%) had no gallstones.

Of 45 patients that had non-colicky pains:
35 (77.7%) had gallstones, and
10 (22.3%) had no gallstones.

Of 3 patients that had no pains whatever, 2 had gallstones
15 patients never had colicky pains nor jaundice, and of these,
12 had gallstones, and
3 had no gallstones.

THE JAUNDICE.

Of 216 patients:
138 (63.9%) had jaundice at some time or other;
74 (34.2%) never had jaundice; and of
4 (1.9%) there is no statement as to occurrence of jaundice.
54 (14.0%) had jaundice at operation and previous attack;
13 (6.0%) had jaundice at operation and no previous attacks;
67 (31.0%) had previous attacks of jaundice, but no jaundice at operation;
4 (1.9%) had jaundice at operation, but there is no note as to whether or not there were previous attacks;
71 (32.8%) had jaundice at operation;
141 (65.3%) had no jaundice at operation;
121 (56.0%) had attacks of jaundice prior to the time of operation.;
116 (53.7%) had jaundice and gallstones;
21 (10.0%) had jaundice, but no gallstones;
60 (27.2%) had gallstones, but no jaundice;
11 (5.0%) had no gallstones and no jaundice; and in
8 (3.6%) there is no statement as to the association of jaundice and gallstones;
12 (5.5%) had jaundice and colicky pains, but no gallstones.

Of 60 patients that had no gallstones, but no jaundice:
44 (73.3%) had colicky pains;
12 (20.0%) had non-colicky pains; and in
4 (6.7%) the character of pain is not accurately described.

Of 11 patients that had no jaundice and no gallstones:
8 (72.7%) had non-colicky pains, and
3 (27.3%) had colicky pains.

Of 34 patients that had no gallstones:
12 (35.3%) had no jaundice at operation, but did have previous attacks;
11 (32.4%) never had jaundice;
9 (26.5%) had jaundice at operation and previous attacks;
1 (2.9%) had jaundice at operation, but no previous attacks;
1 (2.9%) there is no statement as to occurrence of jaundice.

THE SIZE OF THE GALL BLADDER.

Of 216 patients, in:
88 (40.7%) gall bladder was enlarged;
9 (4.1%) gall bladder was normal in size;
32 (15.0%) gall bladder was small and atrophic; and in
87 (40.2%) size of gall bladder is not mentioned in case histories.

Of 88 patients in whom gall bladder was enlarged:
74 (84.0%) had gallstones, and
14 (16.0%) had no gallstones;
49 (55.6%) had jaundice;
36 (41.0%) had no jaundice; and in
3 (3.4%) the presence or absence of jaundice is not mentioned.

Of 9 patients in whom gall bladder was normal in size:
7 (77.7%) had gallstones, and
2 (33.3%) had no gallstones;
7 (77.7%) had jaundice, and
2 (33.3%) had no jaundice.

Of 32 patients in whom gall bladder was small and atrophic:
30 (93.7%) had gallstones, and
2 (6.3%) had no gallstones;
25 (78.1%) had jaundice, and
7 (21.9%) had no jaundice.

Of 87 patients in whom size of gall bladder is not mentioned:
71 (81.6%) had gallstones;
16 (18.4%) had no gallstones;
57 (65.4%) had jaundice;
29 (33.4%) had no jaundice, and in
1 (1.1%) presence or absence of jaundice is not mentioned.

CAPILLARITY IN INTESTINAL SUTURES.*

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The histology of intestinal repair has been most comprehensively studied and described by many investigators, such as Warren,[1] Senn,[2] Murphy[3] and many others. The strength of the union has been determined by its resistance to hydrostatic pressure, in the observations of

* Read in the Section on Surgery and Anatomy of the American Medical Association, at the Fifty-seventh Annual Session, June, 1906.

1. J. Collins Warren: "The Process of Repair After Resection of the Intestine and Intestinal Suture," Trans. Amer. Surg. Assoc., May 12, 1887.

2. N. Senn: "Intestinal Surgery"; Annals of Surgery, June, 1888.

3. J. B. Murphy: "Intestinal Approximation. Pathologic Histology of Reunion," Chicago Clin. Rev., June, 1894.

Chlumsky[4] and of Horsley.[5] The capillary action of the suture material has been spoken of by many writers, but no experimental data have been noted in available literature.

The subject of capillarity in intestinal suturing is worthy of consideration and study, for the reason that the fear of infecting the peritoneal cavity by capillarity has been the cause of attempts to include but a part of the intestinal wall in the bight of the stitch and, in consequence, the introduction of stitches that have yielded and so proved to be insecure.

Capillarity in this connection is generally understood to mean the seepage, creeping or extending of a fluid along the suture material beyond the portion that is in the lumen and in direct contact with the fluid. The portion of the suture in direct contact absorbs the fluid; but if it is carried beyond the line of contact or of submersion it is brought there by capillary action. In the intestinal stitch that portion of the suture in the lumen is in direct contact with the mucosa or the intestinal contents, and the presence of such material in it is due to the absorptive powers of the suture material. But if intestinal contents are found in the portions of the suture other than that which is in the lumen it has been taken there by one or two ways: either by absorption while being drawn through the lumen or by capillary action.

Fig. 1.—Dry materials.

The portion of the suture material that has passed through the gut wall into the lumen and out again has been in direct contact with the mucosa, and the intestinal contents that may be found in it arrived there, not by capillarity, but by absorption while it was in the lumen of the gut. Such a condition is present in at least part of each perforating intestinal suture.

By capillarity is implied a continuous action, a progressive flow, from that portion of the suture within the lumen and in contact with the mucous surface to that part on the serosa. This action is supposed to be constantly bringing to the serosa fresh material from the lumen, and it is this seepage, this continual replenishment of the objectionable matter, that has been feared in intestinal suturing.

In the consideration of this subject and in an effort to arrive at a more definite understanding as to the capillary properties of the different intestinal suture materials usually employed in the various methods, the following experiments were made:

Experiment 1.—The dry materials, ordinarily employed in gastrointestinal surgery, were tied around a frame, and this was placed upright in a saturated aqueous solution of methyl blue, in such a manner that about an inch of the suture materials were submerged. The capillary powers of the threads were then noted, by observing the distance that the color was carried, above the surface of the liquid.

The colored fluid was found to have risen highest in the twisted silk; linen, braided silk, and Pagenstecher thread in the order named. Catgut, especially that prepared by the Bartlett process, had practically no capillary action. (Fig. 1.)

That portion of the suture material which was surrounded and in contact with the liquid, was colored a dark blue in each instance, showing that the absorption, by direct contact with the solution, was practically the same. Keen and Rosenberger[6] have investigated the absorptive powers of the Pagenstecher thread and compared it with twisted and braided silk. They made no mention of the capillary properties of these materials, but did find that the increase in weight from the absorption of fluid was 41 per cent. in the Pagenstecher, 42.9 per cent. in the braided, and 22.2 per cent. in the twisted silk. In Pagenstecher's[7] original article capillarity is not considered.

Experiment 2.—This was similar to the first, except that the sutures, the catguts being omitted, were first boiled, then tied around the frame, and placed in the colored solution while still wet, in the same condition as when they are used clinically. From this experiment it was noted that the sutures have a greater degree of capillarity when wet than when dry (Fig 2). The result was the same after boiling in plain water, or in the usual 10 per cent. solution of sodium carbonate.

The extent of the capillarity will be found to be dependent on various conditions other than the presence or absence of moisture. For example:

Experiment 3.—Tensity: (Fig. 3, A.) thread 1 is taut and 2 is lax, the capillarity is more marked in the one that is loose.

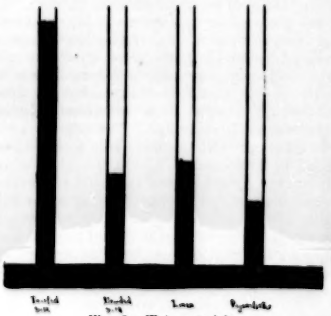

Fig. 2.—Wet materials.

Experiment 4.—The influence of the knot (Fig. 3, B.). In thread 1 the knot receives no consideration, thread 2 has the end tied in a square knot, and there is a knot in the continuity of thread 3, from which it is evident that the knot exerts an inhibitory influence on capillarity.

Experiment 5.—The size of the thread (Fig. 3, C.). Thread 1 is of large coarse twisted silk, thread 2 is small fine twisted silk. There is a greater degree of capillarity in the larger thread.

Experiment 6.—Contact: Figure 3, D., shows the greater capillarity when thread 1 is in contact with a flat surface and thread 2 is not.

The different degrees of capillary action in twisted and braided silk and other usual suture materials have been shown in the preceding diagrams.

Experiment 7.—In an attempt to approach more closely to the clinical conditions sutures were boiled, after which some were passed through the serous and muscular coats of a dog's intestine and others through the same coats of a pathologic human appendix, immediately after its removal, not entering

4. V. Chlumsky: "Experimentelle Untersuchungen uber die verschiedenen Methoden der Darmvereinigung," Beit. zur klin. Chir., Dec., 1889, vol. xxv, iii.

5. J. S. Horsley: "A Contribution to the Study of Intestinal Suture," Annals of Surgery, November, 1903.

6. Keen and Rosenberger: "The Surgical Use of Celluloid Thread," Phil. Med. Jour., March 10, 1900.

7. Pagenstecher: "Celluloidzwirn, ein neues Naht und unterbindungsmaterial," Deut. med. Wochft., April 6, 1899.

the lumen in either case. The sutures were then tied around the frame and placed in the colored solution. The result was not different from that attained after simple boiling.

EXPERIMENT 8.—In this instance sutures were made to enter into the lumen of the animal's intestine and others into that of the appendix; they were made to pass along the lumen and then were brought out through the wall. The result showed a striking dimunition in the capillary action (Fig. 4).

EXPERIMENT 9.—In order to eliminate the factor of the drying or evaporation of moisture from the threads beyond the colored fluid, intestinal contents were placed in a shallow receptacle, in the center of which a drop of concentrated solution of methyl blue was added. Diffusion between these liquids was very slow and limited. Twisted silk, as it had been shown to be the most capillary, was placed so that part of the silk was in the blue fluid and the distal or peripheral portion in the intestinal contents. The blue color did not travel along the suture material, there was an absence of capillarity (Fig. 5, A). In a control, no intestinal contents being used, the capillarity was very marked (Fig. 5, B).

The animal experiments were made on dogs and cats at the Denver and Rio Grande R. R. Hospital, with the assistance of Drs. Slopanskey and Titus.

EXPERIMENT 10.—The animal was anesthetized, the abdomen opened, and a loop of small bowel brought into the wound. Rubber constrictors were placed around the gut about 4 inches apart. In the center of this loop a suture of boiled twisted silk was inserted, from the serosa through all layers of the wall into the lumen, then for about an inch along the lumen parallel to the long axis of the bowel, and finally passed through the wall to terminate on the serosa. The two ends were left half an inch long and were not tied. A solution of methyl blue was then injected into the lumen, between the constrictors; sufficient fluid was injected to enable its presence to be demonstrated, but not sufficient to distend the gut (Fig. 6.).

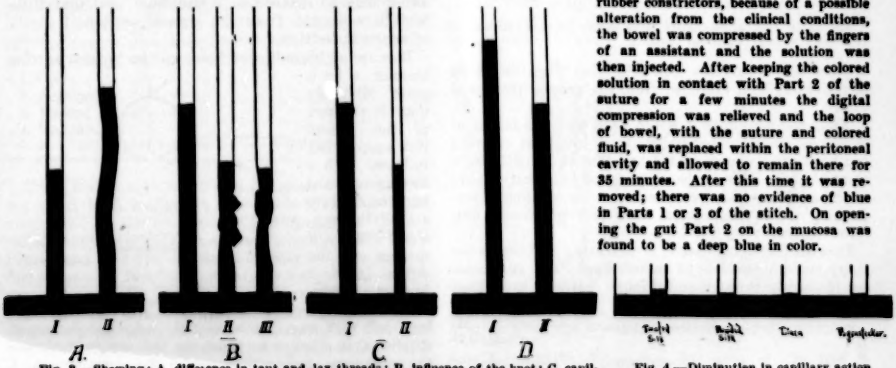

Fig. 3.—Showing: A, difference in taut and lax threads; B, influence of the knot; C, capillarity of finely and coarsely twisted silk; D, capillarity when the thread is in contact with a flat surface and when it is not.

Fig. 4.—Diminution in capillary action in the intestinal contents.

The ends of the suture, on the serosa, were watched for fifteen minutes and there was no appearance of color in either end. Subsequent opening of the bowel showed that portion of the suture in the lumen to be stained a deep blue. Figure 6 shows the suture that was inserted in Experiment 10. It may, for convenience, be divided into parts 1,2 and 3. Part 1 has passed through the wall into the lumen and out through the wall again. Part 2 has passed into the lumen and remains there. Part 3 has not entered the bowel lumen. Part 2 was in direct contact with the blue in the lumen and absorbed the color. Parts 1 and 3 did not receive any of the coloring, by capillarity or otherwise. Part 1 had passed through the bowel wall and the lumen and been in contact with the mucosa and the intestinal contents, which apparently had acted as a preventive to capillarity. Part 3 had been in contact with neither the mucosa nor the intestinal contents, yet, in the absence of capillarity it was similar to Part 1. A possible explanation is that the mucous contact, at the point where Parts 2 and 3 join, where the suture passes through the gut wall, was sufficient to prevent the outward extension of capillary action, and so to account for the absence of the blue color in the suture external to the point of contact with the mucosa.

EXPERIMENT 11.—This was similar to No. 10, with the exception that, after the injection of the methyl blue and the closure of the puncture wound, the loop with the constrictors was replaced within the peritoneal cavity and left there for 15 minutes. After this time it was carefully removed and examined, but there was no color in the ends of the thread on the serosa. On opening the gut, part two of the suture within the lumen was found deeply stained.

EXPERIMENT 12.—This differed from No. 11 in that the gut, with the suture in its wall, the colored solution in its lumen, and the constrictors, was left in the peritoneal cavity for 45 minutes. The result was the same as in No. 11.

EXPERIMENTS 13 and 14.—These were similar to No. 12, except that braided silk was used in one and Pagenstecher thread in the other. The results were identical with those in Nos. 11 and 12.

EXPERIMENT 15.—A twisted silk suture was placed in a loop of bowel, as in the previous experiments, but instead of using rubber constrictors, because of a possible alteration from the clinical conditions, the bowel was compressed by the fingers of an assistant and the solution was then injected. After keeping the colored solution in contact with Part 2 of the suture for a few minutes the digital compression was relieved and the loop of bowel, with the suture and colored fluid, was replaced within the peritoneal cavity and allowed to remain there for 35 minutes. After this time it was removed; there was no evidence of blue in Parts 1 or 3 of the stitch. On opening the gut Part 2 on the mucosa was found to be a deep blue in color.

EXPERIMENT 16.—This was the same as No. 15, with the exception that the two ends of the suture on the serosa were tied. The result was not different from that obtained in the other experiments.

EXPERIMENT 17.—This was undertaken with the object of determining the difference, if any, as regards capillarity, between the bacteria of the intestinal lumen and the colored solution that had been injected in the previous experiments.

Under strict aseptic technic the skin and superficial fascia of abdomen were incised and reflected, the aponeurosis and muscles were seared with the actual cautery, and the abdomen was opened. A part of the large bowel was brought into the wound, and an eight-inch forceps was introduced into the rectum by an assistant, the tip of which was made to present in the bowel at the abdominal wound. A threaded needle was inserted through the intestinal wall from the serosa, into the lumen, where it was grasped by the forceps and drawn down for a few inches. The forceps was removed, allowing the needle and thread to remain in the cavity of the large bowel. The serous end of the thread was cut about half an inch from where it entered the intestine. The viscera were replaced within the abdomen and the wound closed with temporary sutures. The animal was kept under the anesthetic for an hour, the ab-

domen was then reopened, the intestine with the perforating suture was carefully brought into the wound, the suture cut off close to the intestine, and dropped into a tube of culture media. The result was negative (Fig. 7.).

As a control, after the previous described steps were taken, a suture was passed into the lumen and out again. A piece of the suture material that had passed through the lumen was dropped into a similar tube of culture media. The result was positive.

Experiment 18.—This was similar to No. 17, with the exception that the animal was kept under the anesthetic for 2 hours after the insertion and before the removal of the stitch. The result was negative.

In the experiments, the time allowed for the capillarity to manifest itself did not exceed two hours, because of the clinical fact that within this time the serous plastic exudate will have been thrown out between the

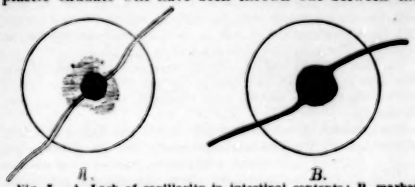

Fig. 5.—A, Lack of capillarity in intestinal contents; B, marked capillarity without intestinal contents.

apposed serous surfaces, and after that time the suture material has been excluded from the general peritoneal cavity.

From the preceding it would seem that the danger of peritoneal infection by capillarity in intestinal suturing has been greatly exaggerated and that it has little substantial basis. This is also emphasized by recent clinical experience in which intentional or unintentional perforating sutures have been used with practically uniform success.

That the fear of capillarity is decreasing is shown by the many modern methods of enterorrhaphy and anastomosis in which through-and-through sutures have been employed. Such as the methods of Bishop,[8] Vesein,[9] Maunsell,[10] M. E. Connell,[11] Wiggin,[12] Cheatle, Hartigan,[14] Horsley[15] and others and the method which I[16] had the honor of demonstrating before this Section in 1901 at the St. Paul session (one and one-half years after its original publication[16]). This decrease of fear is also seen in recent

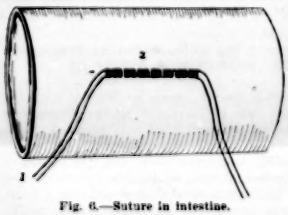

Fig. 6.—Suture in intestine.

text-books by authors at home and abroad in which sutures of this variety are described and approved.

In the two-row methods of suturing the Czerny suture has been improved so that it is now made to include the entire thickness of the wall instead of but part of it. Albert,[17] the first so to modify it, placed the knots on the serosa, and Mikulicz[4] later located the knot within the lumen.

In the mechanical contrivances and aids in gastro-intestinal surgery, the through-and-through suture has had its place. Threads were passed directly from the lumen through the openings in the gut walls by M. E. Connell in the original "plate operation." Senn subsequently placed needles on these threads and passed them through the intestinal wall. The puckering string of the Murphy button perforates all layers of the viscera, and the "elastic ligature" passes through all coats into the lumen and out again.

In the face of the above short review of the history, clinical experience and experiments, it would seem that capillarity should no longer be considered as an objection to the through-and-through stitch. By employing a square or right-angled, instead of a round or whip, stitch (Fig. 7), the extent of the suture material on the serosa may be reduced to a minimum, and that little may be separated from the general peritoneal cavity by serous apposition.

Because of its bulk, the knot will be isolated in this manner with more difficulty than is the rest of the suture. But success has followed the leaving of the knot of deliberate through-and-through stitches on the serosa without further attention. It has been left that way in a necessarily large percentage of stitches that attempt to penetrate but not to perforate the submucosa, as is well shown in the recent report of Eggers and Maury.[18]

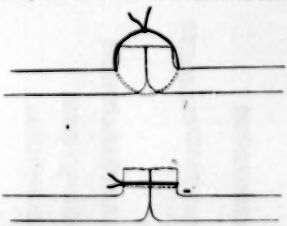

Fig. 7.—Showing suture inserted in bowel.

It may be covered by a sero-muscular stitch, i. e., one not attempting to include part of the submucous layer. Or best, from a theoretic standpoint, the practicability of which has been demonstrated, the knot may be placed outside of the peritoneal cavity, within the lumen.

8. E. S. Bishop: "Enterorrhaphy," Med. Chron., Sept., 1885.
9. Vesein: "La Suture Intestinale," Bul. Soc. de Chir., 1871.
10. H. W. Maunsell: "A New Method of Intestinal Surgery," Amer. Jour. Med. Science, March, 1892.
11. M. E. Connell: "Intestinal Anastomosis," The Journal A. M. A., July 29, 1893; Med. Rec., Sept. 17, 1892.
12. F. H. Wiggin: Med. Rec., Nov. 19, 1898.
13. G. L. Cheatle: "A Method of Uniting the Divided Intestine," Lancet, 1897, vol. i and vol. ii.
14. J .W. Hartigan: "A New Method of Intestinal Anastomosis," New York Med. Jour., July 17, 1897.
15. F. G. Connell: "The Knot Within the Lumen in Intestinal Surgery," The Journal A. M. A., Oct. 12, 1901.
16. F. G. Connell: "Intestinal Sutures," Phil. Med. Monthly, Jan. 1899.
17. Albert: Wien. med. Press, 1881.
18. Eggers and Maury: "What Becomes of Lembert Stitches Placed in the Gut?" Surg., Gyn. and Obst., May, 1906.

Dangers of Unregulated Gymnastics.—A system of gymnastic exercises without apparatus was promulgated a few years ago by J. P. Mueller. His latest book, entitled "My System," was mentioned recently in The Journal, on page 626. Our German and Swiss exchanges have lately contained several communications from physicians relating serious damage from the use of these exercises by persons predisposed to or already affected with unsuspected organic affections. They warn against this "Muelleromania," as they call it, urging the necessity for medical individualization of strenuous exercising for persons past the prime of life or debilitated from any cause. One physician says that he has known several examples of heart disease unmistakably acquired by this means.

THE DIFFERENTIAL DIAGNOSIS AND PROGNOSIS OF TUMORS OF THE UVEAL TRACT.*

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The literature of tumors of the eye covers many hundreds of cases and thousands on thousands of printed pages. The delegation of this subject to me by the officers of the Section on Ophthalmology of the American Medical Association appalled me by its vastness, and I, therefore, selected only one portion, which is, perhaps, its most important phase, that of the differential diagnosis and prognosis of tumors of the uveal tract, dealing with this subject mostly from the clinical standpoint. A companion essay on "The Microscopic Findings of the So-called Leucosarcoma" is offered to the Section by Dr. E. V. L. Brown, of Chicago. The most important monograph on this subject is by Felix LaGrange,[1] which comprises two massive volumes, 1,739 pages in all, and to this work I am indebted for much of the information which follows:

From the richness of its circulation, its complex structure, its superficial situation and its embryology, the eye is greatly exposed to new growths. It is composed of both ectodermic and mesodermic elements, the proliferation or implantation of which gives rise to diverse forms of tumors. I follow LaGrange and classify the tumors developing in the iris, the ciliary body and the choroid under the following heads:

1. Cysts.
2. Angioma.
3. Myoma.
4. Sarcoma.
5. Metastatic Tumors (Sarcoma and Carcinoma).

I. CYSTS.

From their situation we may designate all tumors of the uveal tract malignant as regards the integrity of vision and of the eye itself. Therefore, even the so-called benign tumors, such as cysts, which in other localities would give rise but to deformity or more or less disturbance of function, are dangerous growths to the eye. These forms of tumors are practically limited to the iris. Alt[2] says: "No doubt epithelial new formations occur primarily in the eyeball, springing from the two epithelial layers of the ciliary body or iris, and seem to be benign."

Differential Diagnosis.—The diagnosis is generally easy. In the beginning they may be confused with sarcoma, syphilis and tuberculosis of the iris.

Sarcoma develops rapidly; it is plainly seen and presents a dark aspect, very different from the color of the cysts which are, as a rule, gray, yellow, blue, or rarely green. Leucosarcoma of the iris, which is extremely rare, is white, presents a surface rich in blood vessels and somewhat mammillated. Cysts of the iris usually arise after traumatism, whereas sarcoma does not.

Gummata of the iris are generally to be seen in both eyes, preferably selecting the internal or superior segment of the iris. They are yellowish and under specific treatment are absorbed, leaving an atrophic area. They generally arise in the so-called tertiary form of syphilis.

Tubercles of the iris are of a clear yellowish color, occasionally white. They are vascular, round, multiple, grow quickly and progress rapidly to suppuration in the anterior chamber and perforation of the cornea. While tubercle bacilli are not always found, yet the growths are generally consecutive to general tuberculosis. The rapid course of the affection, the aspect of the growths, the absence of traumatism, should clear the diagnosis. The differential diagnosis of tuberculous tumors of the iris, ciliary body and choroid is helped by hypodermic injection of tuberculin. There is a general reaction in at least 85 per cent. and some local reaction in about 50 per cent. of the cases.[3]

Lepra-tubercles occur in the iris as well as the conjunctiva, but other evidences of leprosy as well as severe iritis are always present.

Angiomata of the iris and pigmented nevi should not be confused on account of their aspect.

Dermoid tumors look like pearly growths. They are, however, of congenital origin.

Cysticercus of the iris should be recognized by the caudal vesicle and the head.

The presence of cystic tumor of the iris being determined, we should recognize whether it be a simple cyst, a pearly tumor or a dermoid. Simple cysts are transparent and translucent. Pearly tumors are milk white and look like a little pearl. They are usually round, sometimes bosselated, and frequently ultimate in simple cysts. These cysts of the iris frequently pass from the anterior chamber and apparently combine with other structures of the eye.

Fig. 1.—Fusiform cells with chromatophores in various stages from the cortex of a melanosarcoma (Schleck).

Fig. 2.—Chromatophore in a leucosarcoma (Schleck).

Prognosis.—The prognosis of cysts of the iris is usually grave, as they predispose this structure to iritis and iridochoroiditis, One case of sympathetic ophthalmia has been reported by Rothmund and Critchett.[1] Cysts of the ciliary body and choroid may follow traumatisms, operative or otherwise.

II. ANGIOMATA.

Only 19 cases of angiomata of the uveal tract have been reported, and the diagnosis of these is disputed by Schieck, who claims that all these cases (certainly 12 of them) are examples of melanosarcoma. These have all been in the choroid and have led to destruction of the eye and, in some cases, life. One of these was my own, described later, which was an angiosarcoma of a metastatic type. The ophthalmoscopic examination in the early stage usually shows a brown tumor, the character of which is discovered after enucleation.

III. MYOMA.

Myoma of the uveal tract has been rarely described in literature, the first case being by d'Iwanoff-Wecker in

* Read in the Section on Ophthalmology of the American Medical Association, at the Fifty-seventh Annual Session, June, 1906.

1. LaGrange: "Traite des Tumeurs de L'Oeil, de L'Orbite et des Annexes." Paris, 1901.
2. Am. Jour. Ophth., April, 1902.
3. C. H. Bull: Medical Record, Dec. 9, 1905.

1867. The others are by Salomon, Mules, Deutschmann, Lange, and Guaita.[1] We would expect muscular tumors to be developed in the iris, ciliary body and the choroid on account of the muscle fibers in these structures. Guaita is the only one who has thoroughly described a case and given microscopic illustrations. If we accept his observations, it is certainly conclusive that muscular tumors may arise in these structures.

IV. SARCOMA.

We now come to the most important portion of this subject, sarcoma of the uveal tract, of which there are many varieties and which have been described by writers under a number of subdivisions. For diagnostic and prognostic purposes we can not accept the statement of Schieck that these are all melanosarcomas. For convenience of description, we put them under two general groups: (1) Melanosarcoma, in which the chromatophores are so thick that the tumor appears blackish or brownish to macroscopic examination and in which pigment cells are plentiful under the microscope; (2) leucosarcoma, in which the tumor is white and chromatophores are with difficulty found under the microscope. (Figs. 1 and 2.) A further subdivision of these forms may be made as follows:

a. According to the form of the cells:
- Round (encephaloid).
- Fusiform (fibro).
- Giant (myeloplax).

b. From the origin of the epithelium and the grouping of the cells:
- Hemangiosarcoma.
- Lymphangiosarcoma.
- Alveolar.
- Tubercular.

c. According to the vessels:
- Cavernous.
- Telangiectatic.

The diverse degenerative forms, myxosarcoma, cholesterinsarcoma and the combined forms of osteosarcoma, chondrosarcoma and tubercular sarcoma, would give still further varieties. The differentiation of its forms is of importance, the pigmented tumor being much more malignant than that without or with few chromatophores.

LaGrange[4] says: "As regards the origin of the pigment, microchemical reactions do not permit us to distinguish hematogenous pigment from that arising in the cells themselves. The hematogenous pigment is found particularly near the vessels, the autochthonous scattered through the tumor. The pigment arises chiefly from the normal cells of the choroid, although the blood also plays a considerable rôle. Tumors with hematogenous pigment appear to be less malignant than the others."

Tashiro[5] sums up the result of his work as follows:

"1. The polymorphous cells composing melanosarcoma are of the same origin. The differences in shape depend partly on the irregularities in the shape of the chromatophores from which the cells spring, partly on the rapid production of cells which have not reached their full development, and partly from the hypertrophy and breaking down of the cells. 2. The unpigmented cells in a melanosarcoma are quite similar elements. In the case of these cells the proliferation is too rapid to allow the formation of pigment. 3. The pigment cells produce their pigment in a metabolic manner by the protoplasm being gradually transformed into melanin. The hemoglobin is here only an oxygen carrier. 4. The retinal epithelium takes no part in the structure of melanosarcoma, but it may proliferate harmlessly in cases of sarcoma of the choroid. 5. Melanosarcoma is composed of a specific variety of cells which arise from chromatophores, a sort of connective tissue, and are characterized by their irregular shape and the production of melanin. Just as carcinoma arising from goblet cells becomes carcinoma mucosum, a special variety, so melanosarcoma is a special variety. Ribbert suggests the name chromatophoroma for the true cases in order to distinguish them from sarcomas that are accidentally pigmented."

Franz Schieck's recent book[6] seeks to prove by a complete anatomo-pathologic report of 24 of the author's own cases of uveal tumors and a review of all fully reported cases in the literature of leucosarcomas and angiosarcomas that all sarcomas of the uveal tract are more or less pigmented and should be classed as melanosarcomas. From the microscopic standpoint we agree with Schieck, for, even in the white sarcomas, chromatophores are to be found (Figs. 1 and 2). We must, however, side with LaGrange (whose descriptions and differentiations the former author attacks) that there is a difference in the prognosis, as regards sight and life, to be made from the macroscopic as well as the microscopic characters of these growths. Those containing embryonal tissue mostly are probably more malignant and subject to recurrence, and especially those that are so deeply pigmented as to be deemed melanotic on macroscopic examination.

Schieck states that from the critical examination of the many cases of melanosarcoma which have been "wrongly described" under other names he finds no evidence that other than pigmented sarcomatous growths arise in the uvea, and he considers that all such should be described as melanosarcoma.

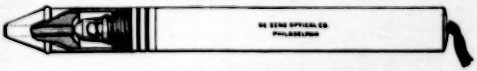

Fig. 3.—Ocular transilluminator (author's model).

Aids to Differential Diagnosis.—The differential diagnosis of intraocular tumors is materially helped by the following methods and instruments of precision: 1. The magnifying glass or loupe, particularly the binocular form. 2. The condensing lens for oblique illumination. 3. The ophthalmoscope. 4. Transilluminating apparatus. 5. Exploratory puncture.

Tumors of the iris and ciliary body can be seen by the external methods; those of the interior of the eye, in their first and second stages, occasionally by oblique illumination, usually by the ophthalmoscope, and the diagnosis confirmed by transillumination.[7] I will not dwell on the three former methods, but the latter, a modern innovation, is certainly not in general use, although it is most valuable. This consists of sending a beam of light through the eye, in a dark room, by such instruments as have been devised by Rochon-Duvigneaud, Sachs and Leber and the modification of the former made by the author.

My model consists of a tube containing a small electric light, in the end of which is a covered glass rod, free at one end, permitting light to pass through. The end of the rod is placed against the lids or sclerotic, in the latter case the eye being anesthetized by cocain, when, if there be any obstruction of size in the eyeball,

4. Arch. d'Ophth., vol. xxi, No. 4, p. 177.
5. Inaug. Dissert., Halle, 1902.
6. "Das Melanosarkom als Einzige Sarkomform des Uvealtraktus." Wiesbaden, 1906.
7. When the tumor is posterior to the equator, of course transillumination is not of pronounced value.

a shadow will show similar to that in transillumination of the face for the determination of disease within the maxillary antrum and other accessory cavities.

Exploratory puncture has been tried by Schulz[8] and Hirschberg,[9] but is dangerous and liable to cause metastasis. The diagnosis of tumor of the eye is self-evident after perforation of the globe or involvement of contiguous structures.

Sarcoma of the Iris.—The diagnosis of sarcoma of the iris does not usually present any difficulty. It may be confused with pigmented nevi or melanoma, which are not usually progressive, but which are held by some authors to be the starting points of melanosarcoma. Fehr,[10] fifteen months before the diagnosis was made of a melanosarcoma of the choroid extending into the ciliary body, found deposits of pigment on the iris and Descemet's membrane. After the enucleation, preceded at the wish of the patient by a puncture, there was recurrence in the conjunctiva, notwithstanding the careful removal of the punctured spot. The author concludes that pigment deposits in eyes which have not been injured, inflamed or degenerated should excite suspicion of tumor. Hirschberg[11] says congenital pigment nevi of the cutis, as life advances, tend to be converted into melanotic tumors, and gives three cases of circumscribed pigment spots of the iris which became melanotic sarcomata.

Cysts of the iris are usually round and of a bluish transparent aspect. Gummata of the iris and tuberculous tumors are usually accompanied by iritis, the pupil is not mobile, the inflammation causes synechiæ, which, with the deposits on the membrane of Descemet, the course of the case, the rapid effect of constitutional treatment, should clear the diagnosis.

Occasional cases of iridic gumma, on first examination, present a striking likeness to primary sarcoma of the iris, as I myself have found, most notable in one case at least. This was in an unmarried female, age 21, whose appearance, history and environment seemed to negative the existence of syphilis. A reddish brown tumor of 3 mm. diameter was observed about the middle of the iris in one eye. Dilatation of the pupil showed only one synechia, and this at the site of the tumor. The eye was said to have been sore for about one year and at first had been inflamed. A tentative diagnosis of either sarcoma or gumma was made; the latter was substantiated by the rapid disappearance of the growth under mercurial inunctions, pilocarpin sweats and iodid of potash. A history of exposure was afterward obtained.

Wood and Pusey[12] report 96 cases of primary sarcoma of the iris. Enucleation was done in 57 cases. Eliminating 16 cases, which must be excluded from consideration for various reasons, there remain 41 cases in which the histologic examination of the enucleated globe showed involvement of other parts than the iris. Iridectomy was done in 27 cases; in 3 the results were bad; in 18 the notes form interesting reading; in some of them the continued growth of the tumor was only too evident. In estimating the results it is necessary to remember that the growth of these tumors is usually exceedingly slow, warning one not to be too certain of a cure until a long time—more than three years—has elapsed after the removal. In 5 cases observed for more than three years there were no recurrences. In one case in which there was apparently no return, the eyeball was enucleated eleven years after the iridectomy; it showed inflammation of the ciliary body and remainder of the iris with tumor cells; sixteen years after the iridectomy the patient died from general sarcoma.

Sarcoma of the Ciliary Body.—The diagnosis is relatively easy, although it might be confused with gumma, tubercle, or even with glaucoma attended by protrusion of the ciliary region, but these are attended by evident inflammation, which is not at first the case with sarcoma. In the case of ciliary sarcoma there is at first no special inflammation nor increase of tension, although as the tumor grows these conditions obtain. Subconjunctival cysticercus about the ciliary region should be recognized by its color, translucence of its vesicle and its movements.

Sarcoma of the Choroid.—This is the most important part of our subject and the most common place of origin. The growth may arise in any part of the choroid, in the ora serrata, the equator, the macular region, and about the papilla. It is usually of a mountain shape, but may have a constriction or neck or may be a flat growth. The most common place of origin is in the ora serrata and here the ciliary body speedily becomes implicated. For purposes of diagnosis and clinical history it may be described under four stages:

1. First Period: The patient comes on account of disturbance of vision. We find lowered visual acuity and scotoma or absence of the visual field corresponding to place of origin of the tumor, which is to be seen in the eye by the ophthalmoscope, sometimes by oblique illumination, and, if the tumor be within the anterior portion of the choroid and ciliary body, a typical shadow will be obtained on transillumination.

At times these tumors may be anomalously placed and thus be at first overlooked, as they may resemble intraocular blood clots.[14] Parsons reports 31 cases of diffuse sarcoma from the literature.[15]

We first observe detachment of the retina, which is an early sign, but with which it must not be confused. Sarcoma is usually of a round form and the retina is stretched more or less tightly over its surface, the retinal vessels being present, but, in addition to these, there are also the true vessels of the tumor which render the protrusion much more vascular than in the case of simple retinal detachment. The tumor is always darker, even in the case of the feebly pigmented growths, because the pigment layer of the retina covers the tumor (Figs. 6 and 7 and fundus pictures Figs. 8 and 9).

In simple retinal detachment the folds of the retina are much more numerous and may change in position from time to time or while under observation. There is certainly subretinal fluid in connection with sarcoma, but in the latter case the detached retina does not vibrate, for the fluid is a jelly-like exudate, an albuminous coagulum, while in the former it is usually more of the consistence of blood serum.

The diagnosis is readily established by the method of transillumination in connection with the ophthalmoscope, the history and course of the case. Retinal detachment, except in the case of myopia, and sometimes even here, generally follows some accident. In sarcoma the patient can rarely actually designate a previous traumatism.

8. Klin. Monatsbl. f. Augenheilk., vol. xxxviii, p. 315.
9. Berl. klin. Wochft., Nos. 4 and 5, 1904.
10. Centbl. f. prak. Aug., vol. xxvi, p. 129.
11. The Journal A. M. A., Nov. 25, 1905.
12. Arch. of Ophth., July, 1902.
14. Parsons: Brit. Med. Jour., vol. xix, 1904.
15. Arch. of Ophth., vol. xxxiii, p. 2, 1904.

Tubercles of the choroid are recognizable under the ophthalmoscope as whitish nodules, occupy a considerable space, and are accompanied by inflammatory reaction, which is absent in the first stage of sarcoma.

Cysticercus under the retina may at first be confounded with beginning sarcoma, but this affection is extremely rare in America, being more common where raw or poorly cooked meat is customarily eaten, as in Germany. The movements of the animal, the opaqueness of the retina over it, and the inflammatory reaction, are usually sufficient to determine the diagnosis.

Glioma and pseudoglioma of the retina are somewhat more difficult of diagnosis. Glioma usually appears in infancy, its glaring amaurotic cat's eye, presence of its peculiar vessels, and the fact that it is composed of retinal tissue and not merely covered by the retina, are in the early stages to be readily determined by the ophthalmoscope. Its rapid course in comparison to the comparatively slow growth of sarcoma is another useful point for diagnosis. Pseudoglioma, or suppurative choroiditis, it to be determined by the minus tension and inflammatory symptoms, absent in the early stages of sarcoma.

2. Second Period: Sarcoma is apt to be confounded in its second stage with two affections: Absolute glaucoma and suppurative choroiditis.

Absolute glaucoma with cataract presents an appearance very like to sarcoma; many eyes have been removed and many errors in diagnosis made even by the most accomplished and experienced ophthalmologists, among whom may be quoted Graefe, Jacobi, Knapp and Hasket Derby[1] and many others of less experience, including myself. Certainly the symptoms are much the same, viz.: the pain and the tension of the eyeball. These vary in glaucoma, while in intraocular growths the symptoms are progressive, the eyeball becoming so tense and hard that finally amelioration results from bursting of the globe. Both symptoms are the results of concomitant glaucoma occurring from the enlargement of the tumor and encroachment on the contents of the eyeball.

Chronic suppurative choroiditis is very rarely accompanied by hypertension. It has, however, followed a primary growth within the eye and resulted in secondary atrophy of the eyeball.[16] Terrien and Coutela[17] refer to the fact that sarcoma may arise in an atrophied eyeball, but believe that the germ of sarcoma must preexist, perhaps in the form of pigmented nevus of the iris.

3. Third Period: Here the diagnosis of choroidal sarcoma should not present any difficulty, for the eyeball has ruptured and the growth is fully apparent.

However, an epibulbar tumor may so encroach on the eyeball as to gain entrance and, if seen at this time, may simulate a growth of intraocular origin. The diagnosis should be made from its history and its course.

4. Fourth Period: Where the tumor growths become generalized we may not always be able to determine the origin, whether from the surrounding structures or from the inner parts of the eye. However, at this time the diagnosis, prognosis and treatment may practically be limited to naming the disease, stating that it is fatal, and preparing for a lethal ending.

Leucosarcoma of the Iris.—As before noted, I have deemed it advisable for purposes of diagnosis and prognosis to make a distinction between the feebly pigmented variety, leucosarcoma, and the melanotic form.

The diagnosis of non-melanotic sarcoma may be confused with cysts or pearly tumors. These, however, are hyaline, transparent, usually of a bluish color, and without vessels. Gummata of the iris are yellow, multiple, implanted about the ciliary circle, and accompanied by other manifestations of the diathesis. Tubercles are multiple, composed of disseminated little tumors, which should not be confounded with the one mass of leucosarcoma. They develop very rapidly and arise in young subjects who present tuberculous antecedents. Lymphomata resemble tubercles. Leprous growths are accompanied by other characteristic symptoms and are usually localized at the sclerocorneal limbus. Cysticercus should be recognized by the animalcule. The melanotic tumors of the iris have been described.

Leucosarcoma of the Ciliary Body.—This may be confused with the other malignant tumors, carcinoma and melanotic sarcoma. The diagnosis can not be made in the primary stage, but may in the secondary from the appearance of the growth. There are only five cases described in literature.[18] It is primary and can not be differentiated *in situ* from melanosarcoma. Tubercular pseudo tumors develop in the ciliary body, but are accompanied by general symptoms.

Leucosarcoma of the Choroid.—This may be confused with glioma of the retina and simple detachment. In glioma there is the characteristic localization of the growth, which almost generally arises about the optic nerve, the absence of the retinal vessels, its characteristic appearance and rapid growth into the vitreous.

The diagnosis between leucosarcoma and detachment of the retina is not so difficult if transillumination be used.

PROGNOSIS OF TUMORS OF THE UVEAL TRACT.

The prognosis of tumors of the uveal tract depends on their nature. Intraocular tumors may always be deemed malignant to the function and to the viability of the organ itself; they demand excision; in the majority of cases enucleation of the eye and in a considerable minority exenteration of the orbit and subsequent *x*-ray treatment. There is a certain amount of difference between melanosarcoma and leucosarcoma as regards the prognosis. Certainly the statistics of melanosarcoma of the uveal tract show that it is more dangerous to life than leucosarcoma. I have been unable to differentiate the various cases in the many reports that have been made on this subject, as many are duplicates.

Fuchs[19] reported 13 cases of melanotic tumors of the iris, 20 of the ciliary body and 196 of the choroid. Of 10 iris cases, 6 were operated on with success—one by iridectomy and 5 by enucleation. Of 11 cases of the ciliary body, 6 with success; 115 of the 196 tumors of the choroid with success, 75 terminated in death, and 15 recoveries out of 40 of the others during the first six months; of the 75 mortal cases, 37 recurred in the orbit. Badoin[1] reviews 130 additional cases in which there were 29 recoveries.

The microscopic diagnosis is of importance, because embryonal cells without pigment are much less apt to form recurring growths than those having fusiform elements with pigmentary migration and proliferation. In 76 cases examined by Fuchs[19] 46 had embryonal cells and 31 fusiform cells; in 33 cases there were 18

16. Schultz: Arch. f. Augenheilk., vol. xiii, p. 56; also Key: Hygeia, February, 1900, and Terrien: Arch. d'Ophth., vol. xxix.
17. Arch. d'Ophth., November, 1905.
18. Moissonnier: Arch. d' Ophth., March, 1905.
19. "Das Sarcom des Uvealtractus," Wien, 1882.

recoveries and 15 deaths. In melanotic tumors Fuchs[19] and LaGrange state that metastasis occurs in 19 per cent., in leucosarcoma 7 per cent. In melanosarcoma there is recurrence in 14 per cent.; in leucosarcoma only 3 per cent. Statistics seem to show that in leucosarcoma about 25 per cent. have been operated on with definite result after three years. In melanosarcoma the percentage is about half of the former. Hirschberg[20] believes that patients who remain healthy after four years may be considered permanently cured, but he has noted an exception in 2 cases of metastasis of the liver

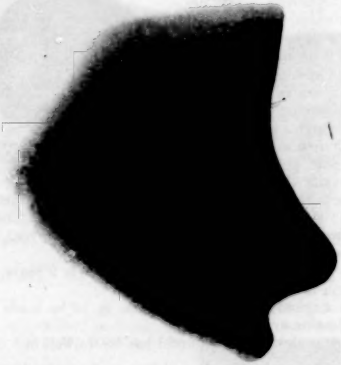

Fig. 4.—Extensive ectasia of ciliary region presenting external appearance similar to my case shown in Figure 5 (Vossius).

nine years after enucleation of the eyeball. Goldzieher[21] reports a similar case.

The most important recent contribution to the question of recurrence *in loco* and metastasis after enucleation for choroidal sarcoma is by Hirschberg. He records the statistics of 68 cases of sarcoma of the uveal tract seen between the year 1872 and 1903; of these, 63 were in the choroid; 66 enucleations were performed. There were no deaths from the primary operation. Local recurrence was observed only once, in which perforation had occurred before enucleation. In 2 out of 6 cases in which puncture of the eyeball for diagnosis was made previous to operation, there was a recurrence in the position of the conjunctival puncture, so that he advises against this procedure. Death occurred from metastasis in 16 cases—in 12 of these within two years. Of 41 cases that could be properly followed, one died from local recurrence, 2.5 per cent.; 17 from metastasis, 41.5 per cent., and 23 remained healthy, 56 per cent. This is the best record of success thus far published. Of 47 cases in which anatomic examination was recorded, 35 were melanotic, 9 slightly pigmented, and 2 leucosarcomatous.

Fig. 5.—Section of eye with extensive ciliary ectasia simulating intraocular growth, attended with hypertension, enucleated under suspicion of tumor (author's case).

20. Berl. klin. Wochenschr., Nos. 4 and 5, 1905.
21. Centbl. f. Augenheilk., p. 135, 1904.

V. METASTATIC TUMORS.

Metastatic tumors of the uveal tract are rare; the majority have been primary, their origin being in the choroid or orbit, secondarily involving the brain and other structures of the head and of the abdomen. There are only five published observations of primary metastatic sarcoma of this region, by Pflueger, Schweiss-Roth,[1] Wiener, Michel, and Würdemann.

In Wiener's case[22] there were multiple sarcomata scattered over the body (Hodgkin's disease?). The growth was said to have originated in the mediastinum. Michel[23]

Fig. 6.—Primary melanotic sarcoma of choroid (author's case).

Fig. 7.—Primary leucosarcoma of choroid (author's case.)

reports one case of Hodgkin's disease which was also considered primary in the mediastinum. I believe, however, that it is the consensus of opinion that these growths must have been primary in the eye or orbit. Certainly that is the history of my own case[24], which was an angiosarcoma with but little pigmentation, apparently originating in the orbit, but the section showing that it involved the eye and choroid, so that a positive determination as to place of origin could not be made. Large

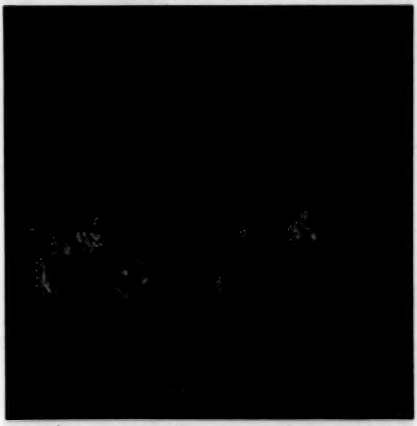

Fig. 8.—Ophthalmoscopic appearance of melanosarcoma of the choroid (author's case, Annals Ophth. vol. xi, p. 439.)

secondary growths appeared in the bones of the skull and many in the abdomen, the largest in the latter arising in the tissue back of the kidney, weighing 1,660 gm. All of these cases were fatal.

Metastatic carcinoma of the iris has not been reported.

22. THE JOURNAL A. M. A., Nov. 8, 1902.
23. Zeitft. f. Augenheilk., vol. xiv, 1905.
24. Am. Jour. Med. Scien., June, 1899.

Uhthoff[25] reports one case of carcinoma of the *ciliary body*, originating in the intestine, commencing as an acute iritis with formation of tumor.

Metastatic carcinoma of the choroid is an affection of which only 46 observations have been recorded; one-third of these were bilateral[26]. Oatman[27] says that in

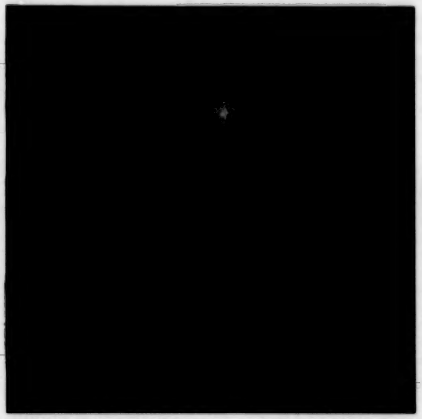

Fig. 9.—Ophthalmoscopic appearance of leucosarcoma of the choroid (author's case).

every case the growth began in the posterior portion of the choroid, and that two to eight weeks elapsed from the first symptom until the vision is lost. Duration of life averages 6½ months; Marbe says one year. The primary growth may be in the abdominal cavity[28]; the lung[29]; the ovary.[30] Here, however, I would briefly report one case of primary carcinoma of the lids which secondarily involved the eyeball, orbit, and contiguous regions, in which most radical surgical intervention and subsequent *x*-ray treatment resulted in complete recovery (Fig. 18).

The differential diagnosis is to be made between sarcoma, glioma, angiosarcoma, angiocavernous sarcoma, tuberculosis, hyalitis, and exudative metastatic choroiditis.

Sarcoma of the choroid is unilateral; only three cases of bilateral sarcoma have been reported. The determination of malignant tumor in both eyes shows that it is most probably carcinoma. The site of carcinoma is characteristic. Sarcoma develops indifferently, while carcinoma has a predilection for the posterior pole, especially the optic nerve or the macular region. Carcinoma has a diffuse flattened form; the retinal pigment is absorbed. The course of carcinoma is very quick, developing within a year, while sarcoma may take many months or years.

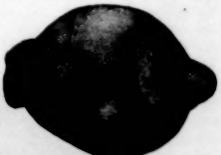

Fig. 11.—Second stage of intraocular sarcoma in which the tumor fills the eyeball (author's case).

In glioma of the retina the latest age is 9 years. Carcinoma is of late adult life.

In angiosarcoma determination is to be made after enucleation or postmortem.

Tuberculosis of the choroid has been dwelt on.

Fig. 10.—Partial detachment of the retina (Haab).

Fig. 12.—Sarcoma of choroid, third stage. Exenteration of orbit; death from cerebral complication eight months later (author's case).

25. Die Ophth. Klinik., No. 22, 1904.
26. Marbe: Deutsche med. Wochft., No. 27, 1905.
27. Manhattan Eye and Ear Hosp. Rep., 1904.
28. Oatman, Marbe, Uhthoff: Klin. Monatsbl f. Augenheilk., November, 1904.
29. Rowan: Trans. Ophth. Soc. Un. King, xix, p. 103.
30. Holden: Arch. Ophth., xxxiii, p. 322.

Hyalitis or suppurative choroiditis has likewise been described and both are accompanied by minus tension and inflammatory symptoms.

TREATMENT.

Although it is not the province of this article to discuss treatment, yet a brief résumé may be apropos. Where positive diagnosis of benign tumor of the iris may be made and the growth threatens loss of function, iridectomy should be done. Enucleation with a long section of the optic nerve should be made in the early

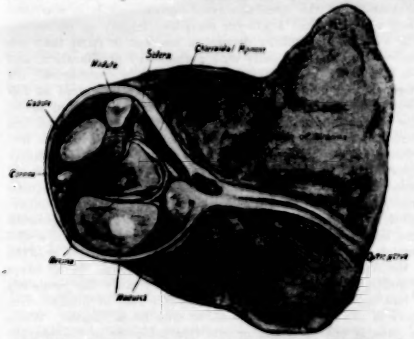

Fig. 13.—Section of tumor including globe. Specimen from patient, Figure 12 (author's case).

stages of sarcomatous growths, and the case should remain under observation for at least four years, when, if recurrence takes place in the orbit, exenteration should be performed. If the case be seen in the second or even in the third stages, exenteration of the orbit, with subsequent *x*-ray exposures for many months, should be made. I have four cases now living in which the latter procedures were done, three to six years from present writing, in which the patients are alive with no recurrence of the growths.

In the various forms of sarcoma we may hope to preserve life, but not the eye. There is

Fig. 14.—Glioma of the retina (author's case).

Fig. 16.—Metastatic angiosarcoma, final stage, three days before, death (author's case).

more hope in the non-pigmented than in the pigmented form. In carcinoma I know of only one case, my own, in which life has been saved. Young subjects certainly present a far less somber prognosis than the aged.

DISCUSSION.

DR. CHARLES STEDMAN BULL, New York, said that for clinical study he prefers the classification of Fuchs: (1) The stage of quiescent, unirritating growth of the tumor; (2) the stage of secondary glaucoma or of irido-cyclitis; (3) the stage of perforation. Sarcomata of the uveal tract should be divided into two classes: melanosarcoma, with a great number of pigment cells shown by the microscope, and leucosarcoma, light colored, with few pigment cells. It is not possible to tell

Fig. 15.—Metastatic angiosarcoma, final stage, showing implication of cranial bones (author's case).

Fig. 17.—Metastatic angiosarcoma, showing inferior view of abdominal viscera and tumors (author's case).

how much of the pigment is derived from the blood, but the greater part is undoubtedly of cellular origin. Hematogenous pigment will probably be found along the blood vessels, while that produced by the normal cells of the choroid is found scattered all through the tumor. He said that transillumination in examination of tumors of the ciliary body and of the

anterior parts of the fundus is often of considerable value, and that Dr. Würdemann's model seems better adapted for this purpose than the instrument of the Rochon-Duvigneaud type, previously used, because of its smaller size and easier application. Exploratory puncture of these tumors of the uveal tract, Dr. Bull said, involves the danger of metastasis from the site of the puncture. In two cases he punctured the sclera to give exit to the subretinal effusion and to confirm the diagnosis, and the conjunctiva became infected and an extraocular growth appeared after the eye was enucleated. In primary sarcoma of the iris, iridectomy is possibly to be preferred, he thinks, to removal of the eye. He agreed with Dr. Würdemann that the growth of these tumors is always slow and a cure not certain until a period of three or even four years has elapsed after the iridectomy. The occasional anomalous position of sarcomata of the choroid no doubt accounts for their presence having sometimes been overlooked until a much later period of development. Detachment of the retina accompanying choroidal sarcoma looks different from detachment without tumor. Lack of vibration and the absence of folds in the retina in cases of tumor indicate that the subretinal

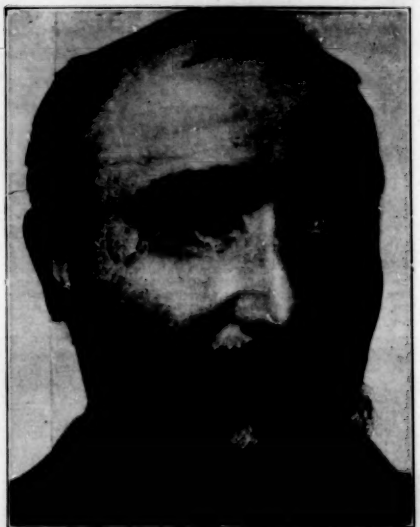

Fig. 18.—Results of operation and Roentgen ray treatment after four years. Carcinoma of eye and contiguous regions (author's case). Patient had several operations and cancer paste in year previous to radical operation of exenteration of orbit, removal of portions of frontal and malar bones. X-ray used several times a week for nearly two years afterward.

effusion is gelatinous and not fluid. Secondary detachment of the retina in these cases is probably hindered and even prevented by the intimate attachment of the tumor to the retina, due in part to the development of the pigment epithelium. Dr. Bull said that he has rarely seen any sign of inflammation accompanying tubercles of the choroid until toward the close of the patient's life. The conglomerate tubercle of the choroid occurs in large masses and is unilateral and closely resembles the choroidal sarcoma. Glioma is essentially a disease of infancy or early childhood and is distinguished from sarcoma by its much more rapid growth. Differential diagnosis between true absolute glaucoma with cataract and a similar condition induced and accompanied by a choroidal sarcoma is difficult. Pain and tension in pure glaucoma vary in degree from time to time, while in sarcoma the symptoms steadily progress till the globe ruptures. Leucosarcoma of the iris, he said, may sometimes be confounded with a gumma, both occurring, as a rule, as isolated, slowly growing tumors. Here one must be guided by the previous history. Glioma of the retina is differentiated from leucosarcoma of the choroid by the localization of the tumor, the absence of the retinal vessels and the rapid growth. All intraocular tumors, even cysts, endanger vision and demand surgical interference. Bull believes that in the prognosis as to life we should differentiate between pigmented and unpigmented varieties, for the statistics of melanosarcoma show that it is more dangerous to life than the leucosarcoma. Prognosis is often greatly aided by the microscopic examination of the specimen after excision, as it is now generally accepted that a growth composed largely of embryonal cells without pigmentary deposit is less apt to recur than one composed of fusiform cells with pigmentary proliferation, and also less likely to lead to metastasis. Briefly summarized, the prognosis of tumors of the uveal tract may be stated as follows: In gumma of the iris or ciliary body a modified favorable prognosis can be given, provided thorough antisyphilitic treatment is faithfully carried out; but it should not be forgotten that in case of gumma of the ciliary body it frequently happens that in spite of the treatment, or because of it, rapid atrophy of the eyeball ensues, ending in essential phthisis bulbi. In angiomata of the uveal tract the prognosis is unfavorable, inasmuch as in most of the cases reported the growths have been sarcomatous. In tubercle of the uveal tract a distinction must be made between solitary and multiple growths in the iris and isolated tubercles in the choroid. In all cases of multiple growths in the iris or ciliary body the prognosis is bad, and if there be no demonstrable foci of disease elsewhere in the body the eye should at once be enucleated. When the case is one of single or multiple tubercles of the choroid grouped around the posterior pole, while the prognosis is distinctly unfavorable, enucleation is not to be advised, as tuberculous deposits will always be found elsewhere in the body, and, moreover, these choroidal tubercles are generally bilateral and may generally be regarded as precursors by a short time of a fatal termination. In sarcoma and carcinoma of the entire uveal tract the prognosis is positively bad and enucleation should be advised as soon as the diagnosis has been made. A few cases are reported of sarcoma of the iris in the form of a single isolated nodule, in which an iridectomy has apparently cured the patient. Bull knows of one such case, seen in consultation, in which the growth was removed by iridectomy nearly four years ago, and in which, up to date, there has been no return of the growth.

DR. E. S. THOMSON, New York, said that he read a paper about a year ago on the use of the Sachs lamp and was surprised to find how few had used transillumination to the extent its usefulness would justify. He has used Sachs' lamp a great deal. To any one who has seen the decided shadow obtained in cases of intraocular tumor its value is at once apparent. In many cases in which the lens is opaque, or in which the detachment is rather atypical, we are absolutely dependent, Dr. Thomson said, on transillumination. The Sachs lamp, while it does its work well, has the objection that it gets very hot. Although the tube applied to the eye does not get hot, the bulb does. That is all the more an aggravation because the angle at which the light enters the eye is of the greatest importance, and the least rotation of the lamp makes a difference in the appearance of the image. In that connection Dr. Thomson stated that Dr. Würdemann's lamp seems to him to meet every requirement. It is light, does not get hot, can be managed at any angle and is brilliant. It is also much more easy to apply to the eye than the Sachs lamp. He said that transillumination has a much wider application than simply in diagnosing tumors.

DR. EDWARD SHUMWAY, Philadelphia, said that ophthalmologists owe Dr. Würdemann thanks for getting out this little lamp. The larger one is used in Philadelphia and is found inconvenient because of its getting hot. Dr. Shumway asked Dr. Würdemann whether he has noticed that the ciliary body casts a shadow. In one case of detachment of the retina it seemed that the ciliary body cast a decided shadow in the examination, and for that reason it was doubtful whether or

not there was a small growth. Dr. Thomson said he wished to place himself on record with Dr. Bull and Dr. Würdemann against the theory of Schieck that all the sarcomata of the choroid are developed from chromatophores. He thinks that in Ribbert's first paper he claimed only that melanosareomas were developed from the chromatophores, just as the malignant sarcomas of the skin are developed from the pigmented nevi. He did not claim that there were no other sarcomas of the choroid. Schieck, however, advances this idea and carries it further, claiming that all sarcomas of the choroid are developed from chromatophores, throwing out all the endotheliomata, etc. The fact that some pigment was found in the tissue would indicate to him that it was developed from chromatophores. That, however, is not necessarily so. If one examines a metastatic carcinoma in the choroid, or the secondary nodules of glioma, he will find always a definite amount of pigment, and the mere fact that pigment is present does not exclude the possibility that there are other growths in the choroid besides those developed from the chromatophores. Schieck says also that the alveolar sarcomata take their alveolar form when they break through the lamina vitrea. The most typical cases of these are the low, flat forms, which do not break through the lamina vitrea, and therefore this theory does not hold. Dr. Thomson, therefore, believes that we should not adopt the theory, but should consider that the growths are not only macroscopically but microscopically leucosarcomas, and that there are growths in the choroid that develop from other cells than the chromatophores.

Dr. Charles H. Williams, Boston, said that in regard to this transilluminator and the difference in the amount of heat, two points must be borne in mind: one is the question of intrinsic brightness and the other of the amount of light. If one takes an ordinary incandescent lamp the filament has the same intrinsic brightness if one takes a quarter-inch of it in length, whether 16- or 32-candlepower. What one obtains in Dr. Würdemann's lamp is simply a short section of this filament, which is just as bright as if there were ten times the amount of filament, and, of course, one does not get the heat. Dr. Williams said that this is very well shown in the little photometer he showed the first day of the meeting. The filament is cut off at 17 stellar magnitudes in any part of its length, but with a 32-candlepower lamp we get a longer filament, and consequently a greater amount of light, than with a 16-candlepower lamp.

Dr. O. F. Wadsworth, Boston, stated his belief that the estimates given by Dr. Würdemann in cases of sarcoma of the choroid are altogether too favorable. In Dr. Wadsworth's experience most of the patients whom he has been able to follow many years have died. The period of freedom from recurrence generally given as sufficient to assure a permanent cure is too short. Thirty-eight years ago he saw an eye in which the whole vitreous cnamber was filled by melanotic sarcoma, yet it was only six years later that the patient's liver, studded with melanotic nodules, was shown at a medical society. One of Dr. Wadsworth's cases with a small sarcoma of the choroid presented a recurrence in the orbit eleven years after enucleation. On the other hand, a patient whose case was reported in the Transactions of the American Ophthalmological Society in 1874 was alive and well twenty-seven years after enucleation and thirty-two years after failing vision had been noticed. Dr. Würdemann states that metastatic carcinoma of the iris has not been reported. That is Dr. Wadsworth's belief, but he has seen such a case. Last June he saw in consultation a woman, aged 70 years, a patient of Dr. F. I. Proctor. Two weeks previously she had discovered something on the iris of the left eye. There was no congestion. On the iris was a swelling extending from the upper edge of the pupil two-thirds of the distance to the ciliary attachment, measuring 3 mm. in its longest horizontal diameter. This swelling bulged slightly but abruptly forward all around; its surface was mostly of the color and texture of the rest of the iris, but near the pupillary edge a small whitish mass projected prominently from its surface. There were also several very small whitish elevations. When the pupil was dilated and the eye turned upward with the ophthalmoscopic mirror it could be seen that the posterior surface projected moderately backward over an area corresponding to the swelling in front. This rear surface was smooth, mostly black, but with two or three whitish patches on it. The fundus was normal. Vision with $+2=20/15$. The right eye had been wounded by scissors thirty or forty years before and counted fingers at one foot only. It was learned that four years previously a small growth had been removed from the right breast, with cleaning out of the axilla, by Dr. Abbe, of New York, who, according to the patient's daughter, had stated at the time that he thought it non-malignant. This information, as will be seen, was not correct. A month later vision still 20/15, fundus normal. The growth measured a little more than 4 mm. horizontally; was more prominent; its anterior surface, mostly sessile, was generally whitish, with a slight tinge of red, as if from superficial blood vessels; only at its inner edge was the surface smooth and approximately of the color of the iris; the posterior surface appeared not much changed. Considering the rapid growth of the tumor, Dr. Wadsworth advised its removal, and this was done by Dr. Proctor soon after. There was good recovery from the operation, with preservation of the vision. The patient died in the early fall. The growth was examined by Dr. Verhoeff, who pronounced it carcinoma. In March, 1906, Dr. Wadsworth wrote Dr. Abbe for information as to the original tumor and quoted his reply, as follows: "I first had my attention called by her to a small mammary tumor in June, 1901. It was not a large growth and was in the upper outer segment of the right breast. There were numerous lymphatics involved thus early in the axillary chain. I made a very thorough removal of the breast with both pectorals and complete axillary contents, finding some small lymphatics even as high as the subclavian and below the minor pectoral. The physiologic report was made by Dr. Francis C. Wood, pathologist of St. Luke's. He said the mass was 'carcinoma of a rather soft cellular type, with but little connective tissues.'"

Dr. R. D. Gibson, Youngstown, said that this lamp can be used on an alternating street current as well as the battery by interposing a resistance lamp. If the voltage of the little lamp is known it is easy to know what resistance to interpose. Much depends on the man who makes the lamp; if he understands it he can make a lamp which will remain cool, but if he is not an expert he will make one that will get hot.

Dr. H. V. Würdemann, Milwaukee, asked Dr. Brown to look over the statistics again, and said that Dr. Brown will find that he is the only one, at least in this society, who says that there is practically no difference between prognosis as regards recurrence and life in leucosarcoma and melanosarcoma. As regards the recurrence of malignant tumors, Dr. Würdemann showed a specimen of leucosarcoma, the only one he has seen that did not return, and one of pigmented sarcoma of the ciliary region and choroid cured after eight years. He also showed three specimens, two of them completely filling the eye, in which there has been no recurrence in eight years, and one in the second stage in which there was no recurrence in nine years. He has been in the habit of using the transilluminator with the street current with a rheostat. In transillumination of the eye we likewise, he said, get a direct examination; we can see the fundus; we can see the tumor; we can see the retina and ciliary body, and in using the rheostat with the light cut down the ciliary body is beautifully brought out. Dr. Würdemann also thinks that it would be useful in showing foreign bodies. He had a case in which a piece of steel was visible in the vitreous. He thinks it would be valuable, too, for examination of the lens and iris.

Scoliosis.—F. W. Harvey, *Montreal Medical Journal*, June, 1906, states that gymnastic treatment has been employed for a long time, but that never before has its value been so much recognized as at the present day. To obtain the best results daily exercises should be given, if necessary, extending over a period of several months. After a careful examination one may determine what group of muscles are to be acted on and what movements are best suited to overcome the curvature. In many cases other hygienic measures should be combined with the gymnastics.

SO-CALLED LEUCOSARCOMA OF THE IRIS.*

E. V. L. BROWN, M.D.

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CHICAGO.

It has long been known that most sarcomas of the uveal tract contain more or less pigment, but it remained for Ribbert,[1] in 1897, to first maintain that all so-called leucosarcomas were in reality made up exclusively of pigment-bearing stroma cells and their derivitives.

He conceives of a species of cell "reversion," by which the normally pigmented chromatophore recurs to its embryonic prototype, and is then later encountered in tumor formation in its successive stages of development, as, namely, the unpigmented, small round cell, the spindle cell (either pigmented or unpigmented), or as the fully developed, branched and pigmented chromatophore differing in no way from its physiologic predecessor. No other type of cell increase, such as that from ordinary connective tissue, vessel endothelium or perithelium, ever produces uveal sarcoma.

Fig. 1.—Case 1. Leucosarcoma of the iris (Leitz obj. 1/3 oc. 3).

Sweeping as these statements seem on first consideration, various other writers, and notably Tashiro[2] and Schieck,[3] have contributed a series of articles which substantiate, in the main, Ribbert's theory. They have described in detail a large number of leucosarcomas in which they demonstrate isolated, pigmented and branched chromatophores surrounded by wide fields of unpigmented cells; they most emphatically deny that these pigment cells are only remnants of the normal pigment cells of the uvea, as claimed by Lagrange.[4] But what is far more conclusive, they have shown the analogy and perhaps the identity between these cell forms in uveal sarcoma, and the various stages of development of the choroidal stroma cell as studied in the human embryo by Riecke.

Riecke[5] finds that chromatophores first appear in the choroid in the seventh month of fetal life. He distinguishes two forms of unpigmented cells, the spindle and the star form, bound together by a network of long and short processes. The spindle cell has bipolar processes and an oval nucleus; the star form has several processes, some of which show nodular swellings at the end, and a large, rounded, vesicular nucleus. In addition to these two types, a few isolated, longish nuclei, bordered by a scant rim of protoplasm, are encountered. These cells, too, are looked on as chromatophores, because they, in common with the spindle cell and the star-shaped cells, have the characteristics of all chromatophores, namely, a sharply contoured and plainly granular nucleus. The form of the pigment and its first appearance in the cell is worthy of note. Molecules of unequal size arrange themselves in the protoplasm about one pole of the nucleus, and in a double row along the

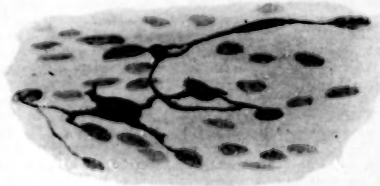

Fig. 2.—Case 1. Four anastomosing, branched, pigmented chromatophores surrounded by pigmented tumor cells (1/12 in. oil immersion).

sides of the processes, the axes remaining free; nearer the center of the cell the pigment is almost unmeasurably fine.

All these various stages are reproduced in the cells found in the so-called leucosarcoma, according to Schieck; but he makes one modification of Ribbert's teaching, namely, that the reversion of the branched cell to the widely different round cell is not a necessary stage, and only a possible one in any case. He agrees with Fuchs[6] that sarcoma of the uvea may proliferate directly from a highly developed type of uveal cell; thus we may have a spindle-cell sarcoma in which round cells are not present and never have been present. In-

* Read in the Section on Ophthalmology of the American Medical Association, at the Fifty-seventh Annual Session, June, 1906.

1. Ribbert, H.: "Ueber das Melanosarkom," mit Taf. XXII, Beitraege z. path. Anat. u. all. Path., 21, 3, pp. 411-499, 1897.

2. Tashiro, A.: "Ueber Bau und Pigmentirung der Aderhautsarkome." Inaug. Diss. Halle a. S. 59 pages, mit. Taf. III 1902.

3. Schieck, F.: "Ueber die Ursprungsstaette und der Pigmentirung der Choroidealsarkome." Mit Taf. XX und XXI. Fig. 1-9. Arch. f. Ophth., 48, pp. 435-465. 1898.

"Ein weiteres Beitrag zur Lehre von den Leucosarkomen der Choriocapillaris." Mit Taf. XIV. Fig. 1-2. Arch. f. Ophth., 48, 2, pp. 319-327, 1899.

"Gibt es wirklich Leucosarkome des Uvealtraktus?" Ber. der ophth. Gesellsch. zu Heidelberg, pp. 173-184. 1905.

"Zur Frage des Vorkommens von Eisenreaktion in Melanosarkomen der Choroidea." Beitrage z. path. Anat. u. allg. Path. Suppl.—Heft., 1905.

"Das Melanosarkom des Uvealtraktus in seinen verschiedenen Erscheinungsformen." Mit. Taf. VIII, Fig. 1-9. Arch. f. Ophth., 60, 1, pp. 377-490. 1905.

"Das Melanosarkom als einzige Sarkomform des Uvealtraktus." Mit. 35 Abbild. im. Text u. 18 Fig. auf Taf. 1-111. 131 pages. Wiesbaden.

4. Lagrange: "Traité des tumeurs d' l'oeil" Bd. 1. Paris, 1901.

5. Riecke, A.: "Ueber Formen und Entwickelung der Pigmentzellen der Choroidea." Mit Taf. IV, Fig. 1-9. Arch. f. Ophth., 37, 1. Pp. 62-96. 1891.

6. Fuchs, Ernst: Ber. der Ophth. Gesselsch. zu Heidelberg (discussion); p. 183, 1905.

deed, a pure round-cell sarcoma of the uvea has never been described. Ribbert[7] says, however, that he does not doubt that a wholly unpigmented, round or spindle-cell chromatophore sarcoma can occur.

The view that the round cell develops into the spindle cell and the spindle cell into the star-shaped cell has been criticised by Borst,[8] who says he has not seen anything to lead him to believe that the cells of one stage go over into those of another stage. Even though this is true it does not seem to me that it in any way vitally affects the chromatophore theory. Why may we not suppose that some adult cells revert to the epithelioid stage, others to the spindle-cell stage and still others to

Fig. 3.—Case 2. Leucosarcoma of the iris (Leitz obj. 1/3, oc. 3).

the stellate-cell stage? Such a conception would accord well with the teaching of Flexner[9] that the various cells found in glioma represent only variously differentiated types of embryonal neuroglia; thus astroblasts give rise to small round-cell gliomas, simulating sarcomas, ependymal cell proliferations give rise to neuroepithelioma-tous gliomas, the astrocytes proliferate in spider or Dieter's cell gliomas, and adult neuroglial tissue is reproduced in the type of tumors made up largely of fibers. It is interesting to note in this connection that neither Flexner nor Schieck have actually encountered pure round cell gliomas or sarcomas, which they consider the most embryonal type, although they both speak of them as possible forms.

Fig. 4.—Case 2. Incompletely pigmented, bipolar, spindle-cell chromatophore occurring in a wide field of unpigmented chromatophores (1/12 in. oil immersion).

On the other hand, I can find nothing in Riecke's article to bear out Schieck's inference that the round cell is the first and most rudimentary stage of the chromatophore in the embryo. Riecke's statement (p. 75) is, as given above, to the effect that one first finds spindle and star-shaped cells in the seventh month of fetal life; round cells are not mentioned. Schieck[10] states that Riecke's findings agree throughout with his own study of a series of embryonic choroideæ, and then says in his summary (p. 72): "Therefore the stage of the unpigmented cells precedes that of the pigmented

Fig. 5.—Case 3. Leucosarcoma of the iris (Leitz obj. 1/3, oc. 3).

cell and the round and spindle cell that of the branched cell." I contend that it has not yet been definitely proved that there is a round cell embryonal stage. Just this point seems to me to be of great moment for the whole theory, because we frequently encounter areas of small round cell proliferation in uveal sarcoma.

Degenerative changes in the chromatophores have been given careful study. The pigment granules lose their even distribution throughout the cell body, nucleus and processes, and group themselves together in clumps; at the same time the processes either lose their connection with the cell body, or, what is more probable, undergo contraction into the body, thereby increasing its volume and making it more

Fig. 6.—Case 3. Fully pigmented, angular chromatophore in a very broad area of unpigmented chromatophores. The processes have disappeared (1/12 in. oil immersion).

7. Ribbert, H.: "Geschwulstlehre," p. 256, Bonn, 1904.
8. Borst, Max: "Die Lehre von der Geschwulsten," vol. i, p. 154. Wiesbaden, 1902.
9. Flexner, Simon: "Glia and Gliomatosis." Jour. of Nervous and Mental Disease, vol. xxv, pp. 306-309. 1898.
10. Schieck (1906): Loc. cit.

spherical. The nucleus of a "ripe" chromatophore stains normally after the cell has been depigmented, but in the "over-ripe" stage the nucleus scarcely stains at all, or has disappeared entirely along with the whole cell; thereon the pigment-heaps keep the spindle or star-form of the cell for a while, and then become diffused through the tumor. Normal chromatophores do not give the iron reaction, but as soon as the pigment begins to clump the iron reaction is present; clumping of the pigment therefore is an index of cell death.

All of the cases studied to date have been sarcomas of the choroid; indeed, few cases of leucosarcoma of the iris have been described in the literature, and none of them studied with respect to the chromatophore theory. I therefore take the liberty of presenting three cases of leucosarcoma of the iris for special consideration in the light of the chromatophore theory.[11]

CASE 1.—O. J. M., aged 41. I am indebted to Dr. W. A. Barr for the privilege of studying this eye; it was removed for sarcoma some three months subsequent to the appearance of the tumor; there had been three hemorrhages into the anterior chamber within the two years previous.[12]

Unstained macroscopic sections, submitted therewith, show one entire half of the iris to be the seat of a lens-shaped tumor 3 mm. long in the plane of the iris, and 1.5 mm. broad from before backward. Although the sinus angle is completely blocked and the canals of Schlemm invaded, yet the adjacent cornea and ciliary body are not encroached on. No discoloration by pigment can be seen with the naked eye or by the loupe.

Microscopic examination shows a highly vascular, alveolar, small spindle-cell sarcoma completely replacing every vestige of the body of the iris, including its normal vessels and stroma pigment cells (Fig. 1). Each alveolus, of which there are ten to twelve from pupil to iris root, is bounded by a narrow, incompletely closed connective tissue band representing obliterated or still patent blood vessels; in nearly every instance a few red cells can be seen along these bands. There is no rosette formation or palisade arrangement of cells about vessels or alveolar septa, and nothing to suggest that the cells originate in the endo- or perithelium. The cells are nearly all fusiform in shape and arranged in densely packed bands and trains with very little intercellular substance. Their nuclei are oval spindles 3 by 4.5 to 3 by 12 microns in size, with a sharp, heavy staining outline and a clear, distinctly granular central portion containing one or more nucleoli. In the older, less heavily staining alveoli toward the back part of the iris the cell bodies are more quadrilateral in shape and give off processes from their angles; more often these processes are developed from the opposite poles of spindle cells.

In striking contrast to the apparent lack of pigment noted in the examination by the loupe, one now finds that nearly every alveolus, and all the vessel-bearing septa between them, contain spindle shaped and branched pigmented chromatophores. These are best studied in alveoli which contain only three or four of them, as shown in Figure 2.

Under the oil immersion they present a beautiful picture, reproducing all the features of the delicately branched, physiologic chromatophores, except that they contain either more intensely pigmented granules, or many times more granules than I can find in any non-sarcomatous stroma cells. This, to my mind, makes it extremely improbable that they are remains of normal cells, as maintained by Lagrange in leucosarcoma of the choroid. Of course, the iris stroma cell is much less intensely pigmented than is the choroidal cells, and the contrast between normal and proliferated chromatophores in the iris correspondingly greater than in the choroid. The fact, too, that all the normal iris vessels have disappeared makes it almost inconceivable that such delicately branched cells could persist in the face of such pressure. Aside from well-formed, finely granular, pigmented cells, the whole tumor is more or less permeated by formless mass and clumps of pigment, much of which is evidently migrated epithelial pigment. But again, the groups often have a fusiform-cell shape; these represent end stages of over-pigmented chromatophores, because the clumps give the iron reaction, while the finely granular, pigmented, intact chromatophores do not.

The case, therefore, while clinically a leucosarcoma, is in reality made up of proliferating, pigmented chromatophores, i. e., cells with oval-spindle shaped, sharply contoured and distinctly granular nuclei, and finely and intensely pigmented, branched chromatophores.

CASE 2.—Mrs. N., aged 42, from the private practice of Dr. J. B. Loring, through whose kindness I am able to present this case. In August, 1904, the right eye of this patient was to all appearances normal, but when she returned three months later an oval, smooth, milky white, intensely vascular, slightly prominent growth, some 4 to 5 mm. across, was seen springing from the temporal root of the iris and ligamentum pectinatum. The eye was promptly enucleated.

Unstained sections, exhibited herewith, seen with the naked eye or loupe, show a lens-shaped tumor mass 5 mm. wide from side to side and 2 mm. thick, occupying the outer two-thirds of the iris and the adjacent internal half of the ciliary body. It seems to be entirely without pigment and of the same color reflex as the neighboring cornea and sclera.

Microscopic study shows the tumor to be a highly vascular, alveolar, spindle-cell sarcoma, originating from the anterior endothelium of the iris and involving the canals of Schlemm and forepart of the ciliary body by extension (Fig. 3). The tumor is evidently of much more recent growth than in Case 1. One can count twenty-five or thirty vessels in cross section; their walls are thickened and the lumina narrowed or obliterated, all out of proportion to the findings in the vessels of healthy half of the iris. Most of the blood is supplied to the tumor by wide, new-formed vessels. Here, as in the previous case, there is apparently no relation between these vessels and the tumor cell proliferation. Alveolar septa are much less numerous. The oval and spindle form nuclei again show the sharp contour and plain granulation of chromatophores. Spindle-form and star-form, branched, pigmented chromatophores are numerous; one with incomplete pigmentation is drawn in Figure 4. Many of them are intensely pigmented. This is in marked contrast with the stroma cells of the healthy half of the iris, among which there are but four pigmented cells aside from those proliferating in a metastasis to the surface endothelium. Considerable pigment detritus is strewn about among the cells, but it is evidently from the retinal pigment epithelium because none of it gives the iron reaction; the chromatophores likewise do not stain, probably because, the tumor being so young, none of the cells have died.

While, then, Case 2 is clinically a leucosarcoma of but three months' duration, it already shows a large number of proliferated, pigmented chromatophores.

CASE 3.[13]—William D., aged 41, from services of Dr. H. W. Woodruff at the Illinois Eye and Ear Infirmary, to whose courtesy I am indebted for the history of the case. The patient has noticed a cloud before his eye during the past two months; examination reveals a pinkish, gelatinous, translucent, conelike 2.5 mm. elevation seated in or on the iris near the lower, outer, pupillary border between axis 320 and 350 degrees. A single vessel is seen running through the center of the tumor. The diagnosis of leucosarcoma was made after the exclusion of tuberculosis by the tuberculin test, and of syphilis by the therapeutic test. A broad strip of iris 6 by 4 by 2 mm. was then excised.

Macroscopic examination showed a soft pultaceous mass, bordered by the posterior pigment epithelium.

Microscopic study of some thirty-five serial sections, 5 microns thick, shows an oblong tumor, about three times the thickness of the iris, situated near the pupillary border, sharply separated from the cut root-edge by a wide zone of

11. The clinical and anatomic aspects of all these cases will be more fully reported at a later date.

12. Shown before the Chicago Ophthalmological Society, May 10, 1904. (See Ophth. Record, vol. xiii, p. 376, August 1904.)

13. Shown before the Chicago Ophthalmological Society, Oct. 10, 1905. (See the Ophth. Rec., xiv, p. 604, December, 1905.)

healthy tissue. The tumor is a vascular, alveolar, oval-spindle cell sarcoma developing from the anterior part of the iris. The nuclei are sharply contoured and contain tiny nucleoli and numerous chromatin granules. The cells, although closely packed, are everywhere separated from one another by a large amount of delicate fibrillar substance, made up for the most part of cell processes. In addition to this supporting structure the mass is subdivided into twenty or thirty rounded alveoli from which a connective tissue meshwork is given off among the adjacent cells. Branched spindle cells and typical pigmented chromatophores are not numerous, yet unmistakably present. One is shown in Figure 6.

The specimen from Case 3 contains pigmented and unpigmented chromatophores, although a growth of but two months' duration and only a couple of millimeters in size, and is therefore a melanosarcoma histologically.

In conclusion, I would recapitulate as follows:

1. Ribbert's theory of the origin of all uveal sarcomas from chromatophores is worthy of most careful further consideration.

2. The analogy between the round, spindle and star-formed cells, which proliferate in sarcoma, and the spindle and star-formed cells, found in the embryonic choroid, is incomplete, because a round cell first stage has not been proved to exist in the latter.

3. It is more reasonable to suppose that the "cell reversion" takes place to any one of these forms of sarcoma, analogous to the relations which obtain between embryonal and pathologic conditions in glioma, than it is to suppose that lower cell forms are transformed into higher cell forms. (Borst.)

4. So-called leucosarcoma of the iris offers a more favorable opportunity for the study of the chromatophore theory than does sarcoma of the choroid, because here the normal chromatophore is much less heavily pigmented than in the normal choroid, or than the chromatophore in the iris. Pressure, too, destroys the normal cell.

5. The term leucosarcoma should be retained, but used only in reference to the clinical appearance of iris sarcoma.

DISCUSSION.

F. H. Verhoeff, Boston, said that Dr. Brown's observations are valuable in confirming the facts on which the theory of Ribbert is based, although they still leave the theory itself open to doubt. Through the courtesy of Dr. Brown, Dr. Verhoeff has had the opportunity of examining his specimens and has been able to confirm his findings in regard to the occurrence of chromatophores. Dr. Verhoeff has also found similar cells in a case of his own. In this case he was able, in addition, to show conclusively that the pigment is not hematogenous by the fact that it was bleached by the method of Alfieri. Dr. Verhoeff understands that Ribbert's theory, briefly stated, is that both melanotic and leucosarcomata arise from chromatophores, and that the cells of leucosarcomata are unpigmented because they are in a lower stage of differentiation than normal chromatophores. It seems to him that the facts brought forward by Ribbert and Schieck in support of this theory are insufficient, and that too many unproven assumptions are involved in it. Granting that the few chromatophores found in leucosarcomata really belong to the tumors proper, Dr. Verhoeff is not yet ready to admit this in all cases, their presence could equally well be explained by other theories. For instance, there is nothing to show that choroidal sarcomata may not arise from a group of cells instead of from one cell, and if some of the cells should be pigmented and others not, a certain proportion of chromatophores would be expected in the tumors. Then, again, it is conceivable that the unpigmented cells of the choroid, should they give rise to a tumor, might well differentiate into chromatophores. It is equally possible, he said, that choroidal sarcomata may arise, according to the theory of Cohnheim, that is, from cells in the choroidal stroma that have remained in an embryonal condition. It is perfectly obvious that the further differentiation of such cells in tumor formation might give rise not only to unpigmented cells but to all varieties of chromatophores as well. Certainly, it seems more probable that the cells of small round-cell, or rather small polygonal-cell sarcomata, correspond to the cells of early embryonic mesoblast than exclusively to the anlages of chromatophores. He does not regard as valid the objection to Ribbert's theory made by Dr. Brown on the ground that the origin of chromatophores has not been traced as far back as round cells. For it is recognized that cells of all kinds when in an undifferentiated stage tend to assume a round form.

Dr. H. V. Würdemann, Milwaukee, declared that for purposes of diagnosis and prognosis we must discriminate between these leucosarcomata and malignant sarcomata in a clinical way. He believes that he has found chromatophores in all cases of uveal sarcomata that he has examined in recent years, even in two years of the so-called leucosarcoma of the choroid. Cells containing many chromatophores, or fusiform elements, are more prone to reproduce themselves, and, hence, such tumors are more prone to recurrence than those containing cells more like the normal elements of the body and, therefore, from the microscopic diagnosis, we may offer a more favorable prognosis in the case of these tumors containing few chromatophores.

Dr. E. V. L. Brown, Chicago, agreed with Dr. Verhoeff as to the uncertainty of this theory, but the burden of proof must rest with those who contend that there are leucosarcomas which do not contain chromatophores. They were found in all these specimens. Dr. Würdemann's criticism, he said, would be important, if true. The theory that melanosarcomata are more malignant, Dr. Brown thinks, must be abandoned. When the cells are overpigmented the nucleus degenerates and we get Perle's reaction to iron. It is in accord with Virchow's teachings that the lower forms of undifferentiated cells have the greater power of reproduction. Dr. Brown believes that the leucosarcomata are the more malignant of the two.

INJURIES TO THE EYE WITH BIRDSHOT*

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I have recently had under my care two cases in which the eye was injured with birdshot, both having double perforation. The histories, briefly, are as follows:

Case 1.—E. B., aged 30, was accidentally shot, November 16, from a distance of 35 yards, while hunting, one shot penetrating the left eye. The injury took place in North Carolina, and it was not until about 5 o'clock of the afternoon of the next day that I first saw him.

Examination.—There was a penetrating wound of the left eye, exactly in the limbus, at the nasal end of the horizontal diameter of the cornea. The lens was partially opaque, there was no prolapse of the iris, but there was a coloboma toward the nasal side, as clean as if it had been an operative coloboma. Apparently a piece of the iris had been torn loose and carried out of sight. There was no evidence of any infection, though the ocular conjunctiva was much injected. There was some swelling and discoloration of the lids. Vision was reduced to perception of light. Numerous other shot had penetrated other parts of the face, and also the right shoulder. A probe introduced into one of these wounds passed in fully ⅝ in. before touching the shot, from which it seemed very likely that the one which had entered the globe had passed clear through the latter.

Treatment.—The eye and conjunctival sac were thoroughly cleansed, atropin was instilled, and the patient was sent at once to the hospital. Here the treatment consisted in boric acid irrigation, atropin, and bandage. There was never at any time any evidence of infection or even of iritis. The pupil was easily dilated and kept so. But as the perforation gradually healed, it was evident that shreds of the lens capsule were incarcerated in the tissue of the cicatrix. As this con-

* Read in the Section on Ophthalmology of the American Medical Association, at the Fifty-seventh Annual Session, June, 1906.

tracted there was traction through the lens capsule on the ciliary body, as the wound was exactly through this important structure. As the connective tissue continued to contract, lachrimation and photophobia became prominent symptoms, and the eye looked red. The patient, however, was very averse to enucleation, so the good eye was carefully watched, and its accomodative power was daily tested. About six weeks after the injury the patient had excessive photophobia in the right (uninjured) eye, so much so that it was almost impossible to separate the lids to examine the eye. He had had some slight conjunctivitis in both eyes for two days previously, which made the eye somewhat injected, but the iris and media were clear, and the fundus and vision normal. Nevertheless, it seemed very risky to postpone enucleation any longer, with such evidences of sympathetic irritation present, and on December 28, the injured globe was removed. No *x*-ray picture had been taken in the case. The recti muscles were divided, under holocain and cocain, then a little gas was administered in completing the operation, as the patient did not wish to take ether. Inasmuch as I suspected a double perforation on account of the depth to which the other shot in the face had gone (⅝ in.), I divided the optic nerve very far back, (14 mm.) of the globe, and had reason to congratulate myself that I had done so. For on completing the separation of the oblique muscles, I discovered a mass of hyperplastic tissue adherent to the posterior wall of the globe and optic nerve in which, close to the nerve, on its temporal side, and 10 mm. back of the globe was found the shot (Fig. 1). The shot had passed out of the globe just to the temporal side of the optic nerve. Vision was never more than perception of light, and finally not that in all portions of the field.

Figure 1.

CASE 2.—Geo. L. aged 34, was shot in the face from a distance of 25 yards, November 22, 1905, while out hunting. Both eyes were penetrated with shot, and the left one was so badly injured that two days subsequently, it was removed in Birmingham, Ala., near which place he had been hunting.

Examination.—I first saw the patient twelve days after the injury, December 4, 1905, when the following condition was noted: The left eye had been enucleated. Right eye, pupil dilated *ad maximum* (atropin). The eye was absolutely free from any evidence of irritation, the sclerotic presenting its normal white appearance, except at one small spot, located 6.5 mm. vertically below the temporal end of the horizontal diameter of the cornea. This spot, which has possibly a diameter of 2 mm. or less, is of a dark color, with slight injection surrounding it. Evidently, this was the point of entrance of a shot, and the patient informed me that a probe was passed a little way into this opening (now closed) by the oculist whom he first consulted in the South. The cornea and iris were of normal appearance, and the lens was uninjured and transparent, but with oblique illumination masses of blood clots could be seen in the vitreous, and no red reflex could be obtained, except in the extreme upper periphery of the fundus. The whole lower two-thirds of the background of the eye gave no red reflex and were absolutely dark. The patient counted fingers at three feet with good projection.

Treatment.—He was sent to the New York Eye and Ear Infirmary, where he was under treatment from December 5, 1905, till February 11, 1906. He was put to bed, given 40 gr. of salicylate of soda daily for three days, when this was stopped, and iodid of potash, at first 30 gr. increased to 50 gr. daily. Atropin was instilled for two weeks, then discontinued. He was also given fluid extract of jaborandi, 30 m. daily, for a couple of weeks in January, going to bed after the dose, and wrapping up warm to encourage diaphoresis. The day after his admission Dr. Dixon very kindly took an *x*-ray picture and localized 14 shot. (Fig. 2). Three of these were in the left orbital cavity. The shot which had entered the right eye was localized about 1 mm. back of the globe, at its temporal side below, having penetrated the sclera at the point described above, thence passing through the lower segment of the globe, almost on a horizontal line, and making its exit through the sclera behind (No. 7 in the cut). His vision slowly improved without any very evident ophthalmoscopic change.

Result.—December 13, ten days after admission, his vision was fingers at 40 feet, though movements of the eye would often be followed by lessening of the vision. January 10, one month after admission, vision was 20/70; two weeks later it was 20/50, and two months after admission, February 7, the vision was 20/30. When I say that it was 20/30, I mean that the patient could read promptly down through the 20/50 line, but from there on down, he would have to make frequent movements of the eye so as to shake the opacities to one side. By occasionally repeating these movements, he would complete the 20/30 line. At this time he could read Jaeger No. 8 at 30 cm. February 24, vision was 20/30 and he could read Jaeger No. 4 at 30 cm. On March 5 he read all but one letter of the 20/20 line and also Jaeger No. 2 at 30 cm. At this time I made a note that the area above where details of the fundus could be made out ophthalmoscopically, was a little larger than when I first saw him, but that the region of the disc and macula was just as invisible as it had been three months before. The patient stated that the cloud before him seemed to be thinning out, and the chinks in the opacities to be getting larger. March 31, the vision was 20/20 minus one letter, and he could read easily Jaeger No. 2 at 30 cm., and more slowly No. 1. While ophthalmoscopically, there are still numerous large opacities in the vitreous, open spaces are now beginning to show, and today for the first time I got a glimpse of the optic nerve and vessels. The patient walks along the street very independently, though he still has to shake his head occasionally to clear things up. Still, the improvement has been most gratifying, and I anticipate that this improvement will continue, and that he will ultimately get a very useful eye.

He has been taking iodid of strontium, 30 gr. daily, ever since he left the hospital, on February 11, 1906. It was for a long time a constant surprise to me how well he could see, but how little of his fundus I could see when I looked into his eye with my ophthalmoscope.

DOUBLE PERFORATIONS.

In considering the interesting features of these two cases the first thing to be noted is that they were both cases of double perforation, and such are not at all infrequent among cases of injury to the eye by birdshot. In a more or less careful perusal of the literature I have found eight or ten cases in which the diagnosis of a double perforation was made either ophthalmoscopically or discovered after enucleation of the eye, and it is by no means sure that such was not the case also in many others not reported as such.

The importance of making the diagnosis in these cases of double perforations was early recognized by the ophthalmologist, and their symptomatology was carefully studied. If other shot had penetrated to a considerable depth in the patient's face or body (in my first patient the fact that one shot had gone over ⅜ in. deep into the patient's cheek led me to suspect a double perforation); if there were paralysis of the ocular muscles or retrobulbar hemorrhages with exophthalmos, such symptoms pointed to the probability of a double perforation, provided a second shot had not entered the orbit

without perforating the globe. Extreme care was necessary in excluding such a condition, for a perforation of the globe by one shot, and the passage of a second shot into the depths of the orbit (without touching the eye), the latter shot injuring some retrobulbar structures, has been met with in not a few cases.

But all these methods of diagnosis, however intelligently worked out, do not in any way compare in accuracy with the skiagraph. One has only to read the reports of these cases published ten years ago, or even less, to appreciate what surprising advances have been made in the treatment of such cases by the *x*-ray. There is no question but that a considerable number of eyes were removed quite unnecessarily in cases in which, on enucleation, no shot was found in the globe, but a second perforation through the sclera behind.

An instance of such an unnecessary enucleation of an eye is that of Milbradt,[1] published in 1890, and there are numerous similar ones to be met with in the literature of the subject in which, if the case were treated today, the eye would be preserved.

In my first case no *x*-ray picture was taken, and while I felt pretty confident that I had to do with a double perforation, for the reason stated above, and acted accordingly in doing my enucleation, there was not the feeling of certainty which was present in the second case, after Dr. Dixon had so accurately localized the penetrating shot, back of the globe. There can be no question, therefore, but that in perforations of the eye by birdshot, just as is the case where the penetrating object is a particle of steel or any other foreign body, the first thing to do is to have an accurate skiagraph taken. We are then in a position where we can intelligently treat the patient and give a much more positive prognosis.

Gengnagel[2] reports a curious case of double perforation of the cornea, in which the shot had entered this structure in the lower temporal quadrant and passed out through the nasal limbus, with prolapse of the iris in both wounds.

In my first case the shot passed through the globe and was found lying in contact with the optic nerve 10 mm. back of the lamina cribrosa. Several interesting cases have been reported, the first by Schweigger,[3] in 1873, another by Vossius,[4] in which immediate and permanent blindness has resulted from the injury, followed in some weeks by atrophy of the optic nerve. In such cases the optic nerve had evidently been injured or lacerated by the shot. In most of the cases the normal appearance of the vessels on the disc indicated that the injury to the nerve was back of the point where the central vessels entered it.

In a case of Gengnagel's,[5] while the ophthalmoscope subsequently revealed an atrophic papilla, the vision became finally 6/12, with contracted fields. In most of these cases of injury of the nerve the shot had not penetrated the globe, but had entered the orbit at one side. Much more serious results than the loss of an eye are possible, for the shot may penetrate the brain and meningitis and death result, as in an interesting case reported by Steindorff.[6] The patient, a little girl, was shot from a distance of six feet in both eyes, the left being perforated, the right not. Death resulted in one month from meningitis, the symptoms of which were very characteristic. At the autopsy a shot was found in the temporal lobe and another on each optic nerve near the foramen opticum. On the right side, while the shot had not torn the nerve, there was in the adjacent sheath an extensive hemorrhage, and the peripheral layers of the nerve were infiltrated with round cells; ophthalmoscopically, marked atrophy was present. In my own case the optic nerve near the shot was left for the macroscopic specimen, and the media were so clouded as to make an ophthalmoscopic examination impossible. Examination of the rest of the nerve microscopically showed no atrophy.

Kretschner[7] reported a case in which pulsating exophthalmos came on some three or four weeks after the accident, due, probably, to an injury (aneurism) either of the orbital artery or, as Sattler[8] thinks, caused by a communication between the carotid artery and cavernous sinus. Kretschner's case had also nausea, slight chills and vomiting, so that such symptoms can be present without the existence of meningitis.

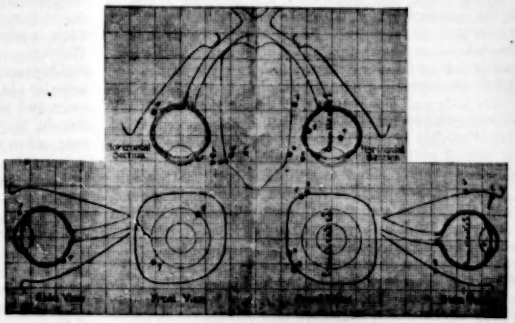

Figure 2, half size.

A case presenting a curious medicolegal aspect was reported by Weiss[9] in 1898, in which a man was shot in one eye immediately after two hunters had discharged their guns, one of whom used No. 7 and the other No. 9 shot. The eye when enucleated had a double perforation and Weiss could not localize the shot in the orbit. So that the victim who wanted to sue some one for damages did not know against whom to bring suit—the man who used No. 7 or the man who used No. 9 shot! I venture to say that if Sweet, of Philadelphia, or Dixon, of New York, had taken the skiagraph they would have supplied him with the necessary information!

It is not necessary that the globe should be perforated by the shot in order that serious injury to the eye should result, as numerous cases demonstrate. The shot may either pass alongside of the globe (glancing against the latter) into the depths of the orbit, or it may strike against or penetrate the lid, but not pass clear through the latter. In either case the eye may be seriously injured, possibly by *contre-coup*.

1. Milbradt: Inaug. Diss., Greifswald, 1890, Case 2.
2. Gengnagel: Inaug. Diss., Giessen, 1894, p. 22.
3. Schweigger: Klin. Monatsbl., vol. xii, p. 25.
4. Vossius: Klin. Monatsbl., 1883, p. 282.
5. Gengnagel: Loc. cit., p. 10.
6. Steindorff: Inaug. Dissert., Halle, 1898, p. 52.
7. Kretschner: Centbl. f. prakt. Augenhk., 1889, p. 112.
8. Sattler: Graefe-Saemisch, first edition, vol. vi, part 2.
9. Weiss: Klin. Monatsbl. f. Augenhk., 1898, p. 10, 350.

Lindenmeyer[10] reports a case where the shot struck the lower lid, but did not penetrate the latter. There was no perforation of the globe. Vision at first was entirely lost. Three days afterward the patient could count fingers at three feet, there were thick masses of blood in the vitreous and the pupil was small. Later choroidal rupture could be made out after the blood had been absorbed (three weeks) and vision was 5/15.

One must not conclude too hastily, therefore, that the eye has been penetrated when, after these accidents, the vision may be abolished and the vitreous full of blood. Careful investigation should be made to ascertain whether the damage is the result of a perforation or merely from the impact of the shot directly, as in the last case, or by a glancing shot, which subsequently has buried itself in the orbit.

Among the conditions found after injury of the eye with birdshot, either with or without perforation, are rupture of the choroid and retina, one or both, commotio retinæ, retinal and intraocular hemorrhages, cataract, injury to the nerve, paralysis of various ocular muscles, pulsating exophthalmos, and finally meningitis and death.

PROGNOSIS.

In discussing the prognosis I will consider it first as to the preservation of the globe and, second, as to the recovery of useful vision. So far as the preservation of the globe is concerned, this will depend much on the location of the perforation. In my first case the shot passed exactly through the limbus, damaging in its passage the ciliary body and lens. Into the cicatrix the lens capsule became incarcerated, and we had to deal with conditions exactly similar to those present in the case of a penetrating wound in this region by anything else, and we all know how prone such are to set up sympathetic trouble.

Several cases have been reported where the shot penetrated this region, and they all required enucleation. In a case of Valois[11] iridocyclitis developed in three months, necessitating enucleation. He states that iridocyclitis may also develop if the shot at first fixed in the vitreous or elsewhere becomes loosened and falls on to the ciliary body. The *x*-ray can be employed, however, to show whether such change in position has taken place. Of course, if the victim is so close to the gun that numerous shot pierce and lacerate the globe (as was the case in the left eye of my second patient, according to what was reported to me), immediate enucleation is the only possible course to pursue.

Aside from these two conditions, viz., a lacerated wound through the ciliary region (and even here expectant treatment for a while may be advisable) and the laceration or disorganization of the globe by numerous shot entering it from close range, the prospects of saving the globe are very good.

Fornatola[12] reported in 1894 twenty-two cases (he has since reported many others), and stated that most cases in his hands showed very little reaction, and out of the twenty-two he only had to enucleate one eye, and this patient had neglected treatment. In my second case the right eye was never infected, nor did it give any evidence of the slightest irritation.

So far as the visual prognosis is concerned, that will depend on the structures through which the shot passes. Where the course of the latter is through the peripheral structures, and especially where there is a double perforation, as in my second case, the ultimate result may be good. In this class of cases the visual disturbance is principally due to hemorrhage into the interior of the eye, and it not infrequently takes several months, or even a year, before the maximum of visual improvement has been reached. In Snell's case,[13] in which the globe was filled with blood, the absorption at first was rather rapid and in nine months vision was normal. It is now five months since the accident occurred in my second case, and his vision is now 20/20, and I am sure absorption will continue for a long time. In any individual case of perforation with blood in the interior it is not easy to give a very positive visual prognosis. Some cases improve more or less slowly, while others remain unchanged, notwithstanding patient and long continued treatment. A case under the care of Dr. Percy Fridenberg[14] for months had finally vision ability to recognize the movements of the hand a short distance away. Of Fornatola's twenty-two cases, eight recovered vision more or less good; in two cases it was 20/20.

Prognosis When Shot Remains in the Eye.—While Leber considered lead as one of the metals likely to set up inflammation in the eye, the majority of observers consider the presence of shot in the eye as relatively harmless, though, of course, their situation is important, for if they rest on the ciliary body they are apt to produce trouble. Bürstenbinder[15] presented a patient in Hamburg in 1901 who had been shot in the left eye eight years previously. There had been a shot in the anterior chamber, at the iris angle; the eye was perfectly quiet and vision was 1/3. In a case of Gotti's the shot was in the periphery of the anterior chamber for one year, when irritation set in and the shot was removed.

Schneider[16] in 1877 reported the case of a soldier who, standing near a target, was struck in the eye by the splinters of a bullet which had struck the target near him. Vision was at first completely gone, and gradually rose to 20/50, in two years, when he was first seen by Schneider. There was a pupillary membrane in which were several bits of lead the size of a pinhead; there were two or three larger pieces movable in the vitreous, and two imbedded in the retina. There was no irritation of the eye, and all the pieces of lead had entered through the same wound in the limbus. Fornatola reported twenty-two cases, and in one only did he have to enucleate. He experimented with infected shot fired into gelatin which remained sterile. He then shot into rabbits' eyes and found that if the lids had been previously sterilized, and if the eye was protected from the subsequent external infection, the shot became encapsulated.

Ovio[17] and Rolland[18] repeated these experiments and found that shot infected with the spores of the anthrax were the only ones which were not rendered sterile by the discharge of the gun. Shot infected with other germs, as the *Staphylococcus pyogenes*, were demonstrated to be sterilized, either by the heat of the discharge or by the friction of the passage of the shot through the air, or gun, one or both.

Our chairman, Dr. L. A. Taylor, in a paper read before this section in 1897, stated that on examination of an ordinary birdshot shell he found covering the powder a series of wads, at least ¾ in. thick, so that it was not probable that any of the flame from the powder explo-

10. Lindenmeyer: Sammlung aus dem Gebiet. der Augenhk. (Vossius), vol. v, No. 1, p. 6.
11. Valois: Rev. d'Ophthal., 1901, p. 71.
12. Fornatola: Rev. gén. d'Ophtal., 1894, p. 206.
13. Snell: Ophth. Rev., 1893, p. 156.
14. Fridenberg: Dents. med. Wochft., 1897, No. 46.
15. Bürstenbinder: Centbl. f. Augenhk., 1901, p. 228.
16. Schneider: Klin. Monatsbl. f. Augenhk., 1877, p. 202.
17. Ovio: Rev. gén. d'Ophtal., 1895, p. 305.
18. Rolland: Rev. d'Ophtal., 1887, p. 530.

sion could come in contact with the shot. Whether all shells are made alike or not I do not know. Experiments, however, have been repeated now by numerous observers, so that there can be little doubt as to the fact that in most all cases a shot from a gun is sterile if it has not come in contact with anything else in its flight. How this sterilization is produced is not quite clear.

TREATMENT.

If the eye is lacerated or badly torn by the entrance of several or numerous shot, as happens if the victim of the accident is very close to the gun, immediate enucleation should be done. When there is a single perforation the important thing is to protect the eye from infection. The only case of Fornatola's twenty-two which required enucleation was one in which treatment was begun late, and the cases in which treatment was postponed or discontinued too soon all proved troublesome. The conjunctival sac should be cleansed if the swelling of the lids permit it and a bandage applied.

If there is much swelling of the lids ice applications should be made and the patient should be put to bed. Of course, if there is prolapse of the iris the wound should be freed from this by excising what is prolapsed. The patient should be treated in this careful, systematic manner until the wound is thoroughly healed and all danger of external infection is past. If there is much gaping of a scleral wound, conjunctival sutures should be introduced to close it as well as possible.

One thing which should not be done is to introduce a probe, for this is a crude way of undertaking localization, and can only add to the risk of infection. An accurate *x*-ray picture should be taken as soon as possible. If by this a double perforation is shown, the eye can probably be saved, provided the ciliary body is not lacerated and infection does not take place. When the vitreous is full of blood the iodids, either of strontium or potassium, have been usually given, and probably are useful in assisting absorption.

If the shot is still in the eye the latter can still, in all probability, be saved, as the history of a great many cases show. The reaction in many of these cases is surprisingly slight if promptly and carefully treated. If the shot is in some position easily accessible, as in the anterior chamber, an attempt should be made to get it out. If, however, it is in the vitreous or other place not easy to get at, I think it should be left undisturbed in the hope that it would become encapsulated, as has often occurred. Now that the *x*-ray can tell us exactly where the shot is located, we can treat these cases much more intelligently. If it is resting on the ciliary body, or if originally in some other position, it has shifted, so as to rest on the ciliary body, it will in all probability set up irritation. In such a case an attempt to remove the foreign body would be warranted, and if it failed the eye could be removed.

A considerable literature is appended to the articles of Pahl[19] and Lindenmeyer.[10]

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DISCUSSION.

Dr. G. E. de Schweinitz, Philadelphia, said that the selective action of shot in so far as vital portions of the eye are concerned is sometimes strikingly illustrated in accidents of this character. The most notable one in his experience is the following: A man was shot with No. 6 bird shot. One shot entered exactly over the pupil space of each eye, passing through the cornea and the lens and burying itself in the posterior portion of the eye. Both eyes were filled with blood, and as this was before the days of *x*-ray examination, exact localization was never made. The ultimate result was bilateral blindness. Dr. de Schweinitz agreed with Dr. Marple regarding the importance of *x*-ray examination in these cases, particularly for the purpose of ascertaining whether or not shot has remained within the globe or passed through into the orbital tissue. For example, in a recent patient a shot passed through the lower lid, penetrated the sclera at the outer border of the internal rectus muscle 1 cm. from the corneoscleral margin. The man was examined about thirty hours after the accident. Intense subconjunctival ecchymosis of the entire eyeball was present, the pupil was inactive and slightly irregular, and the entire lower half of the eyeground was occupied by a large hemorrhage. The position of the disc could be dimly seen and above it was another dark mass, doubtless also a hemorrhage. *X*-ray examination showed that the shot was 37 mm. back of the center of the cornea, 6.5 mm. below the horizontal plane, and 18 mm. to the nasal side of the vertical plane; in other words, in the orbit. The usual treatment produced a perfect result in so far as a quiet eye was concerned. Vision, however, was reduced to light perception in the lower part of the field. The lens was not penetrated. In another case the shot did not wound the lens, but must have passed through the lower part of the ciliary body. The vitreous was so filled with blood that even after months of treatment it was possible to see dimly only certain portions of the eyeground. Extensive retinal detachment followed. Vision was reduced to faint light perception, but the eye in other respects is normal in appearance. *X*-rays demonstrated a double perforation, that is to say, that the shot had passed entirely through the eyeball was buried in the tissues of the orbit. The relief given by the knowledge that the shot is not buried in the tissues of the eye itself is most satisfying and lessens the dread of the possibility of sympathetic ophthalmia.

Occasionally *x*-ray examination is not absolutely satisfying. In a notable case the patient was examined and it was found that a bird shot, No. 6, had penetrated through the upper part of the iris, passed through the lens, and was buried, probably, somewhere in the eyeball. The lens was cataractous and the vision reduced to light perception. A slow iridocyclitis developed, and on enucleation the shot was found exactly where it had been localized by the *x*-rays, lying against the inner side of the sclera. In this case there was a possible error in localization represented by the width of the scleral coat.

The ultimate fate of eyes when a shot grain remains within the globe depends entirely on the situation. If it is in the anterior chamber, or even imbedded in the iris, or sometimes in the angle of the chamber, as Praun points out, it may remain there for many years without producing disturbance, and becomes encysted or covered with a layer of carbonate of lead. The result is different, however, if the ciliary body is penetrated, or if the shot remains in the choroid, under which circumstances iridocyclitis, detachment of the retina, shrinking of the eyeball and sympathetic ophthalmia may occur. Moreover, as is common with all foreign bodies, shot may remain there for a long period of time, apparently quiescent, but finally originate processes which bring about the results already recited.

Occasionally, in spite of extensive changes in the eyeground and the presence of retained shot, the disastrous consequences just detailed do not take place. If it is intended to save the eye, and certainly every attempt should be made, especially if the radiograph has demonstrated that vital structures in the sense of the ciliary body are not seriously damaged, the outlook is fairly good. If, however, infected iridocyclitis be present, enucleation in most instances will be required.

Dr. H. V. Würdemann, Milwaukee, stated that lead shot, although one might think that it would contain pathogenic germs, is not only aseptic, but antiseptic, therefore there are very few infected wounds from shot gun injuries. In spite of the statistics and of Dr. Marple's statement, Dr. Würdemann is of the opinion that all eyes containing bird shot, and having little or no vision, should be enucleated, because they have extensive trauma and later undergo changes that demand enucleation. Chemical changes also occur from the irritating

10. Pahl: Inaug. Dissert., Greifswald, 1898.

effects of the carbonate of lead. Dr. Würdemann showed specimens illustrating the usual serious traumatisms and secondary pathologic changes from retained shot, and the chemical changes showing usual necessity for enucleation in this class of injury.

DR. EDWARD JACKSON, Denver, said that before the time of the *x*-ray in one case he based a probable diagnosis of double perforation on the instantaneous loss of sight. The patient was not stunned or much disturbed by the single shot striking the eye, and said he noticed instantly the loss of sight in that eye. Contrary to the rule, the eye showed infection and had to be enucleated. The optic nerve was found to be divided about 3 mm. back of the eyeball. The extraction of bird shot from the eyeball is more difficult than might be supposed, the shape of the shot preventing it from becoming fixed, so that it readily moves away from the instrument. Even when in the anterior chamber it is difficult to remove it.

DR. ROBERT L. RANDOLPH, Baltimore, reminded Dr. Würdemann that this subject of the aseptic condition of shot has been gone over experimentally, and a number of years ago an army surgeon performed experiments in which bird shot and bullets were thrown into culture media from a distance, and while in the majority of cases the results showed no growth, there were a number of cases in which they did, showing that it is not exactly true that bird shot are really aseptic.

DR. S. D. RISLEY, Philadelphia, said that he could not recall a single instance in his experience in which infection has followed injury to the eye from bird shot, but he has seen several curious changes take place, apparently chemical, which have proved serious and required removal of the eyeball. For instance, within a few weeks he had to remove an eye containing bird shot, in which the vitreous was as black as ink and fluid. Another curious case was one in which the bird shot had entered the brow and, glancing from the orbital wall, struck the eyeball at the upper and outer side. Dr. Randolph supposed that the shot had gone through the eyeball. No sympathetic symptoms were manifested. He waited, therefore, until the blood was absorbed and he could see the interior of the eye. There were wide bands of lymph apparently extending through the vitreous body from side to side. Six weeks after the injury the ball was removed because of sympathetic irritation, and he found the shot in the lamina fusca, between the sclera and choroid coat near the equator of the globe at the upper temporal side. It left a large scar, and from that was a band of lymph, which in contracting had already begun to detach the retina in the ciliary region of the opposite side. There are certainly other considerations than those of sepsis which should control the physician in the care of these cases. In Dr. Randolph's experience sooner or later bird shot in the eye have necessitated removal of the organ.

DR. R. D. GIBSON, Youngstown, said that we can often see the shot with the ophthalmoscope, but after we have located it we are puzzled to get it out. He found himself up against that proposition last February. The shot lay in the back part of the eye. After rotating the eye the question arose as to whether, in making the incision, to cut backward or forward, in order to reach the shot without making unnecessary traumatism. He took a piece of glass and drew it to a point, about 3 inches, with 3/16 inch diameter and curved it. He put that through and held it in front of the light and had the end of the rod as his luminous point. This he could put through the opening into the vitreous and illuminate the entire anterior of the eye, showing the foreign body perfectly.

DR. CHARLES H. BEARD, Chicago, said that if after a reasonable time the blood in the anterior chamber does not disappear and is present in considerable quantity, he would strongly advise its removal. By leaving it too long there is always the risk of the clot becoming organized and doing damage; whereas the operation of removing it is a rather simple affair. One has only to make an incision with a teratome and wash out the blood with warm boric or warm salt solution, by means of a suitable irrigator such as that of Lippincott of Pittsburg.

DR. WILLIAM M. SWEET, Philadelphia, said that in plotting the position of shot or other foreign bodies on the diagrammatic charts employed for this purpose, it is often difficult to indicate whether the body is within the eyeball resting against the sclera or in the orbit close to the globe, owing to the possible variation in the size of the eyeball in different individuals. Dr. Hansell has called attention to the error in localization that might arise from changes in the diameter of the eyeball by refractive errors, particularly high myopia. Stilling contends, however, that variation in the various diameters of the eyeball are independent of errors of refraction, and that a myopic eye of 4 D. may be actually shorter than a hyperopic eye. He found the anteroposterior diameter of the normal eye to vary between 20 and 25 mm., and it is, therefore, of importance to consider these differences in the localization of bodies that are shown to be situated near the line of the sclera.

DR. W. B. MARPLE, New York, said in regard to the point made by Dr. de Schweinitz and Dr. Sweet that he was interested some time ago in a case in which Dr. Dixon located a foreign body just outside the sclera. It was found just inside the sclera. Dr. Dixon subsequently studied the patient and found that he was a man 6 foot 2 inches and with an eye 26 mm. in diameter. If that had been taken into consideration the localization would have been inside instead of outside the sclera. As to Dr. Randolph's remarks regarding sterilization of shot, Dr. Marple thinks that anthrax spores are the only ones not sterilized in those experiments.

APPENDICOSTOMY.*

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The term appendicostomy, although less than four years in use, has already been applied to describe two entirely different conditions. It was first suggested by Willy Meyer, in 1902, to designate an operation devised by Dr. Robert F. Weir, which consisted in the fixation of the appendix to the skin of the abdomen and utilizing its caliber and opening into the cecum for the purposes of washing out or medicating the colon in chronic inflammation of this organ. The term appeared so appropriate that it was at once adopted by the profession and until the early part of the present year was used as synonymous with Weir's operation. Unfortunately, Lance,[1] either ignorant of or ignoring Meyer's use of the term, has employed it to describe the following procedure. In cases of appendicitis where the appendix is bound down by adhesions so that it can not be extricated, he cuts it off at the base and sews up the cecal opening; he then brings the cut proximal end of the appendix up into the abdominal wound and fastens it to the skin. Later on, he says, the stump may be extracted without difficulty or pain, and this he calls "appendicostomy." Without entering into its philology, the prior use of the term by Meyer and the common acceptance of the word as applied by him would seem to render this application by Lance entirely unjustified. We shall, therefore, employ it as describing the Weir operation alone.

The operation is the latest development of a suggestion by Hale White,[2] to make an artificial anus on the right side, thus giving the colon rest and affording an opportunity for local treatment in cases of intractable mucous and ulcerative colitis. The difficulties of making an effective artificial anus on the right side, its disagreeableness to the patient when made, the fact that the operation was in many cases more dangerous to life than the disease, the uncertainity as to its ultimate closure, and our lack of definite knowledge with regard to the pathology of the different types of chronic colitis all militated against general adoption of White's sug-

* Read in the Section on Surgery and Anatomy of the American Medical Association, at the Fifty-seventh Annual Session, June, 1906.

1. Münch. med. Woch., Jan. 23, 1906.
2. London Lancet, 1895, page 538.

gestion, although surgeons generally admitted it was a step in the right direction. In the few cases in which it was employed it was soon discovered that the benefit arose more from the local medication than from the functional rest. Increased knowledge of the pathology of colon diseases also indicated this line of treatment. It, therefore, appeared desirable to establish some method by which the local treatment could be carried out without the disgusting features of an artificial anus. To accomplish this Gibson suggested the application of the Kader method for gastrostomy to the cecum, thus forming what is known as a valvular colostomy or cecostomy, through which the colon could be irrigated and yet there would be no escape of feces. This was put into application by Bolton and was so successful that surgeons at once began to recommend it.

In 1902, however, Dr. Weir intending to do this operation, noticed the appendix rise up into the wound so prominently that the thought occurred to him it might be possible to utilize the caliber of this organ through which to medicate the colon, and acting on his inspiration of the moment he stitched the tip of the appendix to the skin of the wound and closed the latter. As he was preparing to apply the dressings it occurred to him that possibly the appendix might not be patulous and preferring to take no chances he cut off the tip and introduced a No. 12 soft rubber catheter, which entered freely into the cecum. This was withdrawn and a ligature thrown around the stump of the appendix to prevent leakage. The ligature was removed in 24 hours and two days later irrigations of the colon were begun. The case was one of chronic amebic dysentery and the results eminently satisfactory. The simplicity of the operation, its freedom from danger, the certainty of ultimate closure, and the rational treatment offered by it appealed to all surgeons and it was at once adopted as an accepted procedure. As stated in a previous paper on this subject, "there are certain objections to the original technic; viz.: when the appendix is sutured by the tip, its greater part being left in the abdomen, it acts like a suspensory ligament to the caput coli with a very frail anchorage, which may be easily broken loose; it still remains a menace to life, unless removed by secondary operation; there is also the possibility of the small intestine worming itself around it, thus causing acute flexure or hernia between it and the abdominal wall, which might result disastrously." In addition to this, it either requires a secondary operation for closure or it affords us no security against a future appendicitis. The technic of Weir was, therefore, soon altered by Meyer, Dawbarn and the writer all having done the operation soon after Weir.

TECHNIC OF OPERATION.

The technic, as evolved from these modifications, resolves itself into an extra-peritoneal appendicectomy with consequent appendicostomy through the original opening of the appendix into the colon and is as follows:

The site of the lower end of the cecum having been mapped out in advance, the patient is prepared as for "interval operation," the abdomen is opened by the gridiron method; an incision large enough to admit two fingers is all that is necessary. The appendix is grasped and brought up into the wound, the artery of the mesentery is tied and the mesentery stripped from the appendix down to its junction with the cecum; the latter is then fastened to the parietal peritoneum at the lower angle of the wound by sutures on either side and above the appendix; the last suture being continued to close up the peritoneal wound. One should avoid involving the lesser appendical artery in the side sutures; the muscular and fascial layers are then closed by sutures of chromicized catgut; the appendix itself is fastened in the lower angle of the skin wound by a suture on either side and the skin wound is finally brought together by plain catgut sutures. The protruding appendix is wrapped with gutta percha tissue and the abdominal wound is then sealed either by collodion or by gutta percha tissue and chloroform. At the end of two days the dressing around the appendix is removed and if the organ is found gangrenous at its tip, as it frequently is, it should be cut off about ¼ to ⅜ of an inch from the skin. If the aperture appears small the tract should be followed up by a probe at once and then dilated by some such instrument as a conical bougie or Earle forceps, after which a properly adjusted catheter should be introduced and a ligature tied around the stump of the appendix, which will serve the double purpose of preventing leakage around the catheter and at the same time cut off the stump of the appendix flush with the skin. The catheter should be introduced about 2 to 4 inches, according to the thickness of the abdominal wall and should protrude about 4 inches. If there is abdominal distension its end should be left open in order to allow the escape of gases; if there is none, it should be bent on itself and fastened with a safety pin to avoid leakage into the dressings. On the third or fourth day irrigation may be begun, using at first warm saline solutions until the bowels have been freely opened. After this the temperature of the solution should be reduced in dysenteric cases to about 65 to 75 F.

The special features of the operation to be noted are as follows:

SITE OF INCISION.

As a rule for guidance we may say the incision should be made one and one-half inches inside of the right anterior superior spinous process at right angles to and just above a line drawn from this process to the umbilicus. A hard and fast rule of this kind, however, may lead one into difficulties. In cases where the appendix is bound down or the cecum displaced it may put the parts on too great tension or it may be impossible to bring the appendix properly out through such an incision. By careful percussion, palpation and auscultation, one can nearly always locate the lower end of the caput coli, especially if it has been distended by air pumped in through the rectum. This point should be located a day or two before the operation and the incision should be made directly over it, so that the appendix when brought out will form a straight conduit into the gut and will not be under too great tension.

OPENING THE APPENDIX.

Most operators who have written on this subject have followed Dr. Weir's practice and opened the appendix at the time of operation in order to assure themselves of the patulousness of its canal. Without exception, I believe they advise doing this after the gut and appendix have been fastened in position. This seems to me illogical. If there is any doubt of its patency, the appendix should be opened before the bowel is fixed to the parietal peritoneum in order that, if its canal is found obliterated the operator may abandon appendicostomy and proceed at once to make a Gibson cecostomy. I am of the opinion that a practised surgeon can always tell whether or not the organ is patulous by rolling it be-

tween the fingers, and if it is so, he should not take the risk of infecting the wound by opening the canal until two or three days after the operation. Of course this does not apply to cases in which the operation is done for intestinal obstruction or paralysis, for artificial feeding or for any very acute conditions. In such cases a few hours delay is all that is necessary, just as in colostomy. When opened early, however, the appendix should be cut off fully a half inch from the skin, a catheter introduced and a thread tied around the stump to avoid leaking around the catheter.

SIZE OF THE APPENDIX.

The questions may arise, is it advisable to attempt this operation in the presence of a small atrophied appendix, even though it be patulous; will its caliber admit a catheter large enough to serve the purposes of irrigation? From personal experience in two such cases I can answer this question affirmatively. The organ was found easily dilatable and the results in these cases were more satisfactory than in those with very large appendices. This opinion is confirmed by C. B. Keitley,[3] who, in a case of carcinoma of the transverse colon with slender atrophied appendix, was able to dilate the latter until he could introduce a small-sized rectal tube, the opening afterwards serving as an artificial anus.

WHEN AND HOW TO CLOSE THE OPENING.

The time at which the appendicostomy should be closed can not be fixed by any hard and fast rule. It depends on the disease for which it has been done, the history and condition of the patient, the amount of annoyance it gives, and his proposed future residence.

In amebic dysentery, the condition for which the operation has been chiefly done, the disease is usually apparently cured in four weeks or less, but it would be very inadvisable to close the opening at this time. In this disease we have periods of quiescence lasting sometimes months even without treatment. I always advise these patients to wait six to nine months before closure. If they are to return to the tropical regions I advise them not to have the opening closed at all, as it affords them a promising refuge in case of reinfection. This position is confirmed by the experience of Arthur, who has had two recurrences after closure.

In cases of simple mucous colitis the opening may be closed whenever the bowels have become regular in their movements without irrigation or laxatives and the mucus has been absent from the stools for several weeks.

In intestinal distension from peritonitis or volvulus, closure may be made as soon as the condition for which the appendicostomy was done has disappeared. In other conditions the time of closure must be left to the judgment of the operator, as there are no statistics thus far to guide us.

The only disappointments from the operation, so far as I have heard, have followed too early closure.

The method of closure is very simple and was suggested by Weir in his first communication on this subject. He said: "When normal defecation is obtained the fistula may be closed by cauterizing the mucous membrane with the Paquelin"; at the same time he said the closure might be made by dissecting out the stump of the appendix and suturing, if thought desirable. In my paper before the Academy of Medicine, of New York, in May, 1905, I mentioned no other method of closure than cauterization. Nitric acid applied to the mucous membrane has invariably and promptly closed the aperture. Notwithstanding these authentic utterances, we find C. B. Maunsell[4] claiming priority in this method of closure.

INDICATIONS FOR THE OPERATION.

In general the operation may be said to be indicated in all chronic inflammatory diseases of the colon. It has been chiefly employed in chronic amebic dysentery, muco-membranous colitis and syphilitic ulcerations of the colon. In all these conditions it has proved almost uniformly successful.

Maunsell[4] has employed it successfully in one case to fix the cecum in a case of volvulus of the cecum and ascending colon; and in another to prevent gaseous distension after resection of the small intestine. He also recommends it in general peritonitis.

Keitley[5] has employed it as a substitute for cecal colostomy in case of carcinoma of transverse colon; to fix cecum in case of intussusception of ileum, appendix and cecum into the ascending colon; and to relieve most obstinate constipation. He also recommends its use for artificial feeding and in the treatment of typhoid fever, as suggested by Ewart.[6] Sir W. H. Bennett has employed it once with success in chronic ulcerative colitis and suggests the possibilities of the operation as follows:

1. A means of treating diseases of the large and small intestine.
2. A means of relieving or preventing intestinal distension.
3. A means of artificial feeding.
4. A substitute for cecal colostomy.

Willy Meyer has employed it with great benefit in one case of tuberculosis ulceration of the colon. The results in this case encourage us to believe that the operation offers some hope to these cases which are otherwise hopeless

SOLUTIONS FOR IRRIGATION.

The selection of a fluid for irrigation will depend on the diseased condition.

In amebic dysentery the consensus of opinion is largely in favor of quinin solutions. In my experience normal saline at a temperature of 65° to 75° has been effective in all dysenteric cases. One must be careful though to use normal saline and not brine. In one case where an excess of salt was used the patient suffered from collapse with great thirst and dryness of the throat for some hours.

In catarrhal conditions, with or without ulcerations, solutions of nitrate of silver 1/5,000, ichthyol ½ to 1 per cent., solution of peroxid of hydrogen 10 to 20 per cent., aqueous fluid extract of krameria 10 per cent. and argyrol 5 to 25 per cent., have all been used with more or less satisfaction. Some of these cases yield very promptly, while others are very obstinate.

I have one case of mucous colitis under my care at present, due to pelvic adhesions, in whom I did appendicostomy over a year ago. She has improved; is kept comfortable by the irrigations, but she is not well and probably never will be until the adhesions are absorbed or broken up.

Ewart[6] reports a case in which appendicostomy was done for colitis with diarrhea and profuse bloody dis-

3. Lancet, 1906, I, 1023.

4. London Lancet, April 28, 1906.
5. Lancet, 1906, 1023.
6. Lancet, May 12, 1906.

charges. The hemorrhages continued in spite of all the ordinary irrigations, but was stopped by injecting liquid paraffin into the colon.

SUMMARY OF CASES.

Weir	3	Dawbarn	3
Meyer	5	McCosh	1
Lilienthal	3	Major Arthur	9
Major Bordon	3	Gant	8
Curl	11*	Sir Wm. Bennett	1
Ewart	1	Maunsell	2
Keitley	3	Nydegger	2
Hutchinson	1	Moynahan	1
Spencer	1	Armour	1
Lynch	4	Tuttle	14
Total			77

* Some cecostomies, but number not stated.

CONDITIONS FOR WHICH THE OPERATION WAS DONE.

Amebic colitis	45
Mucous colitis	15
Syphilitic ulceration of colon	4
Tubercular ulceration of colon	4
Multiple papillomata	2
Intussusception	1
Volvulus	1
Chronic constipation	2
Carcinoma transverse colon	1
Hemorrhagic colitis	1
In resection of ileum as precaution against gaseous distension	1

RESULTS.

In the 44 cases of dysentery there were six deaths following, but not due to the operation; two from unsuspected tuberculosis, two from extensive ulceration of bowel with chronic nephritis, one from exhaustion before the appendix was opened and one from cerebral disease, three months after the operation, the dysentery having been apparently cured for two months. The balance of the cases (38) are reported cured. Arthur reports two relapses, one after two years. In the cases of papillomata the operation was only palliative, as was also the fact in carcinoma. The cases of syphilitic ulceration appear to have been greatly benefited, if not permanently cured. In the cases of volvulus and intussusception the operation was effectual. In the cases of mucous colitis the reports are all favorable. In these, however, we must consider how much was due to the removal of the appendix and how much to the effects of the appendicostomy. The relationship between chronic appendicitis with adhesions and chronic mucomembranous colitis is a very close one and the etiologic influence of one on the other merits a wider discussion than the limits of this paper permit. Suffice it to say, that by appendicostomy we accomplish the double purpose of getting rid of the appendix, whether it be the cause or effect of colitis and at the same time give access to the parts for local treatment.

DISCUSSION.

DR. WILLY MEYER, New York, said that there are quite a number of cases of chronic colitis, ulcerative and non-ulcerative, that can not possibly be cured by medicinal means. Surely drugs, prolonged rectal lavage, diet, etc., should first be given an opportunity to show what they can do before surgery is tried, but in many of these cases medication is not only useless but is a time consumer. There are two operations, appendicostomy and cecostomy. The latter, he said, needs the permanent presence of a tube in the opening, which is a great annoyance to the patient, and is certainly more dangerous than appendicostomy. Dr. Meyer said that whenever the appendix appears to present an opening large enough to introduce a catheter it ought to be utilized to gain access to the interior of the cecum. He also said that it is necessary to attach the cecum to the parietal peritoneum and not simply to stitch the appendix to the wound. In one of the first cases in which there was a recurrence after apparently a perfect cure of the trouble and in which the opening was still present, another surgeon, not knowing the anatomic conditions present, advised the introduction of a silver catheter through the appendix. This procedure evidently was not done very gently and perforation occurred two years after the establishment of the appendicostomy wound. In spite of immediate laparotomy, cleansing and drainage, the patient died. It is necessary, Dr. Meyer repeated, to place the appendix entirely outside of the peritoneal cavity by stitching the cecum into the peritoneal wound. It seems to be wise to place the origin of the appendix at the upper angle of the wound and then to let the appendix pass through the abdominal wound in an oblique downward direction. In this way there is slight angulation at its origin, but there is less leakage than if the appendix passes through the middle of the wound. We ought also to satisfy ourselves at the time of the operation that the appendix is permeable. He considers it absolutely necessary to open the appendix at the time of operation. Thus, after the wound is closed by layer sutures, as used in appendicitis (always using the gridiron incision), the tip of the appendix should be cut off, and the surgeon should satisfy himself that the organ is permeable. There may be tight strictures which can not be stretched. The wound would then be opened and colostomy done after appendectomy. To reopen the next or second day and use the cecum means doing a second operation. By taking these safeguards, it will usually be possible after twenty-four hours, to introduce a catheter and to irrigate. The proper indications for this operation are ulceration, ordinary and specific, amebic colitis and tuberculosis. In the last named the procedure is not attended by such success as in the other three, but Dr. Meyer thinks that if we get these cases in time and operate, and if we will then send these patients to the country, as we do with other tuberculous patients, they will have a better chance to improve. Otherwise, irrigation should be commenced after twenty-four hours, and in the majority of cases the diarrhea, which may have existed for many years, will be subdued in a short time. Appendicostomy, he declared, is an excellent operation, and is the operation of choice in chronic intractable colitis.

DR. ROBERT F. WEIR, New York, said that he used this method in a number of instances, and has never felt the desirability of stretching the appendix to the parietal peritoneum, for the risk of possibly doing damage to its circulation. He has accepted the judgment of others in not opening the appendix primarily, and he has also learned from the experience of other surgeons, and from his own, that the appendix in the majority of cases can be made to take the instruments required in the after treatment. In the treatment he has found that in the cases of ordinary dysentery, not those of amebic origin, the washing out of the bowel with warm water or warm saline solution is the first thing to do. In the majority of instances that will bring about prompt improvement. Dr. Weir has finally got down to a routine treatment in which he places considerable reliance. After having washed out the bowels carefully, he uses a very weak solution of silver nitrate, one-eighth or one-sixteenth grain to the ounce of water, daily and sometimes twice daily. He apprehended that even such a weak solution might cause some irritation, but it is only rarely that his patients have complained of some little tenesmus or of a sensation of heat in the bowel, and then he gives them a little bismuth to soothe the mucous membrane and success has followed this treatment pretty rapidly.

In only one case of amebic dysentery he followed the suggestion of Dr. Tuttle. He discovered by accident that the amebic parasite was quickly checked in its movements, deadened in fact, by contact with cold water, and injected into the bowel by rectum, cold water, ice water and pounded ice. Subsequently, when this operation of appendicostomy was brought to his attention, he injected ice water and chopped ice in through the tube along the whole colon. Dr. Weir's experience had practically prepared him that cold water passed in through the colon did not depress the patient, as he had previously thought it might. Dr. Tuttle has had a large number of cases of cures of cases of amebic dysentery of years' standing by virtue of the injection of, or thorough irrigation with, this cold water. Dr. Weir has several friends, one a medical man, who were relieved by Dr. Tuttle by the use of these ice-cold injections in amebic dysentery.

DR. J. A. MACMILLAN, Detroit, stated that he has had a little experience with colostomy performed for an ulcerated rectum,

and he has been gratified to find how rapidly the ulceration disappeared after rest was given to the bowel below by the colostomy and also the benefit derived from irrigation through the colostomy. He believes that very great benefit would accrue from taking advantage of the appendix in the manner indicated by Dr. Tuttle. He asked Dr. Tuttle whether or not this treatment would be advisable in cases of intractable ulceration in the rectum itself, and if irrigations through the appendix would not bring on violent peristalsis. Dr. MacMillan thinks that the liquid might accumulate in the colon and induce a very violent peristalsis. He also asked how the opening was closed.

Dr. J. P. Lord, Omaha, stated that Dr. Summers, of Omaha, said he had done enterostomy by the Kader method of gastrostomy and has extended it to these cases for irrigation. It has not the disadvantages connected with using the appendix for this purpose, and one can readily imagine that the appendix might be unfit for this purpose. After the granulations have formed two or three days the catheter may be moved and reintroduced daily with safety and the irrigations made, and as soon as one ceases to introduce the catheter the sinus closes. Dr. Lord suggested that this method is, perhaps, to be preferred to the one proposed by Dr. Tuttle.

Dr. Tuttle said that there are a number of affections which he did not mention, but for the treatment of which this operation is peculiarly applicable and in which it has been used. Our English brethren are using it in the treatment of volvulus and intussusception of the ascending into the transverse colon, in so-called postoperative intestinal paralysis, for artificial feeding, and for the treatment of typhoid fever. It is remarkable to note the number of conditions in which the method has been employed or recommended. He said that he has tried every solution that has been suggested; he does not think that it makes much difference what solution is used for irrigation in dysentery as long as it is not used too warm. He used normal saline solution at about 60° or 70° F. Dr. Tuttle has used this method in the treatment of ulcerations of the rectum, in cases of dysenteric type, and it has been marvelous how rapidly the ulcerations low down in the rectum heal. In the cases of tuberculous and syphilitic ulceration where the operation has been employed, it has been most beneficial. Dr. Tuttle advised strongly against opening the appendix at the time of operation. Every case of hernia he has seen has followed opening the appendix at that time, and there has been subsequent, if not consequent infection. The closure of the opening depends entirely on the condition treated. In tuberculous conditions, never close it. In cases of dysentery, if the patient is going back to tropical regions, where he may be infected again, Dr. Tuttle would advise him to keep it open. It acts as a safety valve. He has never employed the method in cases of acute dysentery, although he has used the cold irrigations in those cases. A short time ago he received a letter from Dr. Musgrave, of Manila, in which he says that Dr. Weir's discovery promises much for all these cases of chronic dysentery. Three patients were cured within as many days and never a return of a single symptom after forty-eight hours of irrigation. There has not been a single death from the operation itself. The six deaths reported, occurred as follows: Two of them from exhaustion before the appendix was opened; the other four patients died from tuberculous peritonitis which had not been suspected before the operation.

The Blood Changes in Dementia Praecox.—O Sandri (*Rivista di patologia nervosa e mentale*), finds that the early stage of dementia præcox is accompanied by changes in the white corpuscles of the blood indicating a systemic intoxication, viz., a slight increase of the number of the leucocytes with a moderate polynucleosis. The appearance of catatonic symptoms in hebephrenics is accompanied by an alteration of the hemoleucocytic formula; that is, the appearance of a pronounced mononucleosis. In the paranoid and hebephrenic conditions there is nothing specially abnormal in the number and proportion of the blood elements. The above mentioned changes in the leucocytes are as constant and severe in recent cases of catatonia as in those that date back a number of years and that can, therefore, be called chronic.

TREATMENT OF SARCOMA OF THE NASOPHARYNX BY INJECTIONS OF ADRENALIN.*

JOHN EDWIN RHODES, M.D.
CHICAGO.

The prognosis of sarcoma of the nasopharynx is so uniformly bad that any treatment that offers hope for either the amelioration of the symptoms or a possibility of cure deserves our attention. Having recently had an opportunity of trying a remedy in an inoperable and unfavorable case of sarcoma of the rhinopharynx with encouraging results, I wish to present the method employed to the fellows of this Association with the hope that it may be found worthy of further trial in other cases. The treatment employed was first suggested by Mahu,[1] in 1903, and recently used in a case of carcinoma of the rhinopharynx by Berdier and Falabert[2] with very marked benefit.

Patient.—Mrs. B. G., aged 22, married seven months, was sent to me Jan. 19, 1906, by Dr. G. E. Turrill, of Cleveland, Ohio. Her mother was living and well; her father had died of erysipelas following an injury.

History.—There was no history of hereditary disease in the family. She had not been well for about twelve years, and for the last three years had been subject to attacks of bronchitis. She had measles in childhood and had had several attacks of tonsillitis in the preceding three years. She said that she had had a growth removed from the back of her throat five years ago, and that this had been growing for seven years previously. She had complete relief of all the symptoms connected with this growth by the operation, and had no further trouble until seven months ago, about the time of her marriage.

The early symptoms were those of a cold in the head, and she had been under treatment since the condition first appeared. About this time she had an attack of what was diagnosed as pertussis, and the growth in the throat, which had been increasing in size slowly before that time, began to grow more rapidly and continued to enlarge until about two months previous to her visit, since which time it had seemed to remain stationary.

Examination.—When first seen, she complained of a large growth in the back of the throat, completely obstructing the nasal passages, so that no air entered them at all; she also had marked loss of hearing, progressively increasing; severe pains at times in the back of the neck, radiating to the vertex; a profuse discharge in the nares, which could not be completely removed because of the obstruction, and also symptoms of dryness of the throat, etc., from the necessity of breathing through the mouth continually. There had been a constant loss of weight, declining from a normal weight of 125 pounds seven months before to 92 at that time. The appetite was poor, but there had been no fault of digestion and the bowels were regular. The tongue was thickly coated and dry. Her menses had been regular and normal. She said she had become nervous of late. The patient was much emaciated and pale, but her strength was comparatively good and she was able to come to the office for treatment during the time I had her under observation, although an increasing weakness was evident. She breathed through the mouth and her voice was the characteristic voice found in complete nasal occlusion. The temperature was 98 F. and the pulse 128, feeble, of small volume, but regular. The heart and lungs were normal.

The nasal cavities were free anteriorly, but the choanæ were completely occluded and the nares were partly filled with thick mucus. The tonsils, uvula, palate, tongue and larynx were normal. A tumor mass presented on the pharyngeal wall, descending to the level of the laryngeal vestibule and gradually sloping forward and upward behind the velum palati, pressing the latter forward against the posterior molars of the upper

* Read at the Twenty-eighth Annual Congress of the American Laryngological Association, Niagara Falls, N. Y., June 2, 1906.

1. La Presse Médicale, April 4, 1903.
2. La Escuela de Medicina, Dec. 31, 1905, vol. xx, No. 24.

jaw. Palpation showed this tumor to be attached on its posterior aspect only, as the finger could be forced between it and the soft palate and choanæ and the Eustachian cushions could be felt by firm pressure. The tumor, therefore, had a broad base of attachment on the nasopharyngeal and pharyngeal wall and undoubtedly originated from the former. It was firm but not hard, somewhat lobulated, was pinkish-white in color and on raising the soft palate its surface was seen to be mottled with bright red spots. It did not bleed easily and there were no points of ulceration.

Diagnosis and Treatment.—A diagnosis of sarcoma was made and I sent her to the hospital. The next day I removed a mass of the growth for microscopic examination, which showed a spindle-celled sarcoma, highly cellular, with many lymphoid cells. Considering everything in the case, especially the certainty of a speedy recurrence of the growth, an operation could not be recommended, and at the solicitation of the husband that something be done I made injections of adrenalin into the substance of the tumor daily. For this purpose I used a needle long enough to reach the tumor through the nasal cavities. I had the following solution prepared by my druggist:

Adrenalini chloridi	12
Acidi borici	60
Chloretone	025
Aquæ dest.	15

M. Ten minims equal five milligrams of adrenalin chlorid.

An injection of 5 minims of this solution was made into the faucial portion of the growth on January 25, and a 1-to-1,000 solution of adrenalin was swabbed over the surface. About twenty minutes after the injection she had some nausea, but there was no faintness nor any appreciable effect on the pulse. An ulcerated spot had appeared on the anterior surface of the soft palate, due to its being crowded against the left posterior molar by the pressure forward of the tumor, so the injection was made into the portion of the tumor directly behind this ulcerated spot.

On January 27 I injected 10 minims of the solution into another place. On the following day I injected the tumor through the right naris and on the next day through the left. In this way I alternated the size of puncture. After the second treatment diminution in the size of the growth was apparent.

On January 30 the retraction was shown by the removal of the pressure from the site of the ulcer and the healing of the same. There was an almost complete restoration of hearing from the removal of pressure from the Eustachian tubes and the pain was very much less.

I made seven injections and it was thought advisable to send her home and to have the treatment continued there. At her last two visits the injections caused an almost immediate nausea and vomiting. She had become much weaker at this time and in the extremely nervous condition she was in the last day there followed some faintness with blueness of the lips and weak pulse. The encouraging results of this treatment were the immediate reduction in size of the sarcomatous mass and temporarily the alleviation of pain.

Dr. Turrill continued the treatment after her return home and wrote me that he had alternated the treatment in the nasal cavities and throat with .0025 mg. adrenalin daily, using .005 mg. but once, making seven injections only. The improvement was noticeable and in about ten days she could blow the left nostril and breathe through the nares at times.

She had become very weak, with considerable gastric disturbance and vomiting, due, she believed, to a remedy she was still taking; this was discontinued. The fauces became inflamed and swollen, but there was no visible increase in the size of the tumor and no necrosis of tissues. A spray of adrenalin relieved the throat symptoms. An attack of diarrhea still further weakened her, but this soon subsided. The treatment was discontinued. The fearful exhaustion due to the inroads of the disease persisted, notwithstanding every effort at nourishment and stimulation, and the patient died March 15.

While the results were only encouraging in this case, in view of the experience of Mahu by topical application and the notable improvement in the cases treated by Berdier and Falabert, I assume the method should be given a trial in other instances.

Mahu[1] treated three patients with ulcerating epitheliomata by local applications of adrenalin (1 to 1000) and found it arrested persistent hemorrhage, suppressed the pain and was followed by a rapid and continued amelioration of the general condition of health. He did not claim curative effects, but in each case the neoplasm seemed to have been arrested in growth, for a time at least, and there was less tendency to spread and to invade new tissues. The disease in these cases, respectively, involved the tongue, the larynx and the laryngeal vestibule. He suggests, in conclusion, that attempts be made to destroy certain circumscribed epitheliomata by adrenalin injections.

CASES REPORTED.

Berdier and Falabert[2] report a series of nine cases of cancer, treated by subcutaneous injections of adrenalin in the internal ones and interstitial injections in the external ones. The cases are reported at length.

The first case was one of cancer of the rhinopharynx. The patient was a man aged 52. He had no specific history and his family history was negative.

History.—He was well until July, 1902, when he had an attack of erysipelas. In February, 1903, he began to have severe pain in swallowing and intense headache. The nasal passages became occluded. This continued about a month, when an eruption appeared about the nostrils and there was a foul, sanious discharge from the nose. In June he consulted several specialists, who pronounced his case cancer of the rhinopharynx, and gave a grave prognosis. Later, some portions of the growth were removed.

Examination.—He was finally sent to Dr. Berdier for more radical treatment, in June, 1904.

At this time the isthmus of the fauces was very much deformed, the palate very tense, hard, infiltrated, lustrous; the anterior pillar on the right side in a similar condition, extending forward into the buccal cavity, where there was a vegetating mass, irregular in form, covered with a false membrane, gray, adherent and of a very fetid odor. Posterior rhinoscopy was impossible, but on palpation there was found a hard, irregular mass in the nasopharynx, which bled easily. The anterior nares were free, except for a slight thickening of the mucous membrane. Dysphagia was marked and there was difficulty of respiration. The mucous membranes were pallid. The submaxillary glands were enlarged and hard, and there was enlargement of the maxillary and inguinal glands also.

Treatment.—He had had thorough antispecific treatment over an extended period, without benefit. Topical applications of lactic acid, potassium chlorate and various other remedies were also tried, but internal remedies were suspended on account of their irritation of the stomach. An application containing cocain 1 to 30 was applied and a gargle of chloral 1 to 200 was used and also enemas of peptones.

On June 29 there was some improvement, less odor; he could breathe a little through the nose, and pain was less, and at greater intervals. The thermocautery was used at this time on the oral growths. This improvement was of short duration and the patient soon became worse. July 10 Berdier applied adrenalin, 1 to 1,000, topically to blanch the exuberant masses and to reduce the growth. This gave some relief till August 24, when the condition of the patient was so bad that respiration was labored and stertorous, articulation difficult, as was deglutition also, even of liquids, from increase of the growth and glandular enlargement.

Tracheotomy was advised but deferred on recommendation of Falabert, who was called in consultation, and interstitial injections of ½ milligram of adrenalin were begun at irregular intervals of a day or two.

Result.—In a few days the glands of the neck began to diminish, the patient could open the mouth, and began to articulate better, some of the enlarged glands having disappeared after the eighth injection. On September 12 the conditions had changed remarkably. The soft palate had regained its elasticity and mobility, the isthmus of the fauces presented an almost normal appearance, the thickness of the mucous

membranes had diminished, there was less disturbance in mastication, and the patient could speak more plainly. The axillary and other glands had diminished very noticeably in size. On September 28 a marked gain in weight was noted. In April the weight was 68 kilograms, and this had declined to 46 in September, and increased to 56 under the treatment.

The patient was reported in good health at the time of the presentation of the paper. It is unfortunate that a histologic examination was not made in this case, but he was seen by a number of the best specialists and they agreed as to the diagnosis.

The other cases were cancer of the esophagus; three of cancer of the stomach, one of which was confirmed by a postmortem; one of epithelioma of the uterine neck; one of epithelioma of the skin, and two of the tongue and mouth. In each of these cases improvement in a marked degree is noted, evidenced by lessening in volume of glands involved, decrease in size of tumors, marked amelioration of pain, increase in weight and general improvement in health. They conclude that when adrenalin is locally applied or injected it has a great influence on cancerous growths; they advise its use in all cases of cancer and think it should largely replace morphin as an analgesic.

PHYSIOLOGIC ACTION OF ADRENALIN.

No satisfactory explanation can yet be given of the physiologic action of the adrenalin in cases of such pathologic change as occurs in cancer, and the subject has never been thoroughly studied. Elliott[3] has made many and valuable observations of the effects of adrenalin on animals. In his exhaustive treatise he shows that it accelerates and augments the heart beat, as do the cardiac accelerator nerves, and that it constricts the blood vessels of the body as do the sympathetic nerves, is proven. Constriction is produced in the largest arteries as well as in the arterioles. Another author states that he had found that in the area around the point of the injections the blood vessels were constricted. Vascular dilatation is probably not produced by it and the veins seem not to be influenced. On local application to unsound flesh it blanches it quickly and briefly, being succeeded by venous hyperemia. Its application to plain muscle invariably is followed by contraction, no reaction and relaxation.

Melzer and Auer,[4] in their studies of the effects of injections of adrenalin in delaying the toxic effects of strychnia, concluded that in some way there was an impairment of absorption through the blood vessels by the tissues. They also found that the blood of adrenalin animals clotted more easily. They brought out another interesting fact, that the suprarenal extract possesses the property of increasing tonicity of contractile tissues, which lasts the longer the less organized this tissue is, showing that the effect is not of short duration. In brief, their theory is "it causes an increase in tonicity of the contractile protoplasm of the endothelia of the blood capillaries and lymphatics. This increase in tonicity narrows the lumen of the pores and decreases the facility for the interchange between the blood and the tissue fluid."

It is certain to my mind that in some way the action of the adrenalin is expended largely on the vessels and the blood stream and thus cuts off the nutrition in these growths. At the same time it must have some specific action on cancerous growths if we accept the conclusions arrived at by the results in the cases reported by Berdier and Falabert.[2] Certain it is that under an interstitial injection there was an increasing shrinkage in the cases of sarcoma I have reported and there is no reason to think that this shrinkage would not have continued if the injections could have been employed longer. The evident increase in physical strength and well being in other cases treated by this method would also tend to show that my patient's rapid decline had nothing to do with the treatment, but continued in spite of it, as is usual in such cases without treatment of any kind.

As this method is new and the action of adrenalin when injected over a long period and frequently is not yet thoroughly understood, I believe it will be necessary to be cautious in its administration.

Within the past month Joseph L. Miller, at the Congress of American Physicians at Washington, presented an admirable study of the production of arteriosclerosis by the continued administration of adrenalin. In a personal note he gives briefly his conclusions as follows:

Josue, in 1903, first demonstrated that repeated intravenous injections of adrenalin chlorid in rabbits would produce marked degeneration and calcification of the media of the aorta. It is remarkable how rapidly these vascular changes may occur, even in so short a time as five or six days, or after three or four injections. A few observers have succeeded in producing these same changes by the subcutaneous use of adrenalin and by injecting it into the trachea. The question then arises whether this is a safe remedy when used subcutaneously in man. We know that, when given in this way, it causes considerable rise in blood pressure, and this has been considered an important factor in the arterial changes. Since it has been shown that digalen, when administered intravenously to rabbits, may cause arterial changes of similar character, it is probably safe to say that adrenalin is not more dangerous than some other drugs in common use. Of considerable interest is the recent work of Korany who found that, after injecting the animal with iodopin, the adrenalin did not produce any change in the vessel.

Elliott[2] found that the daily repetition of comparatively small amounts in animals experimented on causes atheroma of the aorta and coronary arteries. The remedy, however, is non-cumulative in action. Would we encounter a like condition in man and should precaution be necessary? The dosage would have everything to do with such a possibility. The experiments by different observers undoubtedly show that calcification of the media of the aorta and degenerative changes in blood vessels can be produced by injections of adrenalin. It must not be forgotten that the dosage necessary to produce these changes in the animal must be very large, increasing from about three minims to each kilogram of weight in the rabbit. Rabbits of 2,000 gm. have been killed in 2½ hours by 20 mg. of pure adrenalin. Smaller doses do not produce these atheromatous changes. In human beings it would be necessary to use a proportionate dose—as 180 minims of a 1 to 1000 solution for an individual weighing 60 kilograms—very many times larger than it would be considered safe to use, or that would be recommended. There is no doubt, therefore, that the production of an arteriosclerosis in man would be a danger that practically does not exist. A careful histologic examination of the tissues being treated should be made, as it has not yet been demonstrated what the changes in pathologic structures at the site of injection have been.

Unfortunately, I did not have my patient under observation long enough to permit such examination, but in other cases I trust it will be made. The unpleasant effects of the amount I used may have been due to the rapidity of the injection and possibly to the size of the dose. Melzer[4] found the toxic effects of injections

3. Journal of Physiology, vol. v, 32.
4. Trans. Assoc. Amer. Phys., 1904.

of bile much influenced by the rapidity with which they were made; the rapid injection of a small quantity may have a fatal effect, while a much larger dose could be given slowly without such result. I think this precaution would be well in the use of adrenalin. Death comes speedily in animals from the injection of large quantities of adrenalin and smaller quantities have provoked glycosuria and inflammatory changes in the liver and kidneys. Symptoms of weakness, prostration, nausea and vomiting may have been evidence that too large a dose was used. I believe 2½ mg. is a safe dose for an injection and possibly 5 mg. is not too large in some cases. The nausea and vomiting, while not severe or prolonged in my case, seemed to be an indication for a smaller dose. I would, therefore, recommend only one milligram every two or three days as initial dosage for an adult in most cases with a possible cautious increase.

CONCLUSION.

In conclusion it seems to me that this method merits trial, especially in cases of carcinomata and sarcomata of the throat and nose in which an unfavorable prognosis must almost without exception be made, and the earlier it can be resorted to the better. I believe that it may be safely asserted that this may replace morphin as an analgesic in these cases and that it has a palliative effect, while we have no proof of its being curative in its action as yet. In operable cases, however, in which delay would be dangerous, a resort to surgery, as heretofore, should be the rule, until the matter has had further trial.

AN INFECTIOUS DISEASE OF DOUBTFUL NATURE.

PRELIMINARY NOTE.*

LEONARD K. HIRSHBERG, A.B., M.D. (Johns Hopkins).
BALTIMORE.

During the past four years I have had six cases[1] of continuous fever, which lasted from seven to sixteen days, without enlarged spleen, abdominal tenderness, rose spots, or a positive Widal reaction. In no case were malarial parasites demonstrated; nor was leucocytosis present. The cases all occurred in Baltimore, in young adults, between June and December.

The onset was acute in every case, with a rapidly ascending temperature, which was the main feature, a strong, full pulse which never rose over 80, and flushed face, analogous to that seen in typhoid. In the last three cases agglutination tests were made with strands of paratyphoid, as well as typhoid cultures. They were both entirely negative.

The object in calling attention to these few cases is to lead my friends, who have similar cases, to report them, and perhaps to classify them. They are evidently not typhoid, paratyphoid, malaria, or acute gastrointestinal fevers. It may be that there is more than one disease included in my six cases. Since there is so much in common in these cases, and no reference to an analogous fever in Osler, Allbutt's System, Nothnagel, or the general literature, it seems to me of interest to report them. Cultures made from the blood in two cases were negative.

Case 1.—H. B., male, married, aged 35, a Baltimorean and a butcher, complained of headache for four days. Family history and personal history were unimportant, except that he had typhoid seven years ago.

Patient felt all right except headache. There were no pains elsewhere. He was slightly constipated. There was no nausea, no vomiting. He was not sick enough to be in bed and was not short of breath. Appetite was poor. Stools were brown. Rest of history was negative. He had eaten nothing unusual.

Examination.—Temperature 102.4, pulse 76; face was flushed; pupils were bright; tongue was heavily covered with a thick white fur, dry and scaly. There were no glandular enlargements, no rose spots in back or front. Chest was negative except an old untransmitted, apical blow, systolic in time. There was no jaundice anywhere. Telangiectases were absent. The abdomen was soft; there was no tenderness; no liver or spleen was felt. Bladder was not distended. The genitalia were clear, rectum smooth, prostate normal, urine negative; no bile. Leucocytes, 8,000. Riva Rocca pressure was 140. Widal negative four times.

Course of Disease.—The temperature in this case reached 104.2 on the seventh day. It was kept below by ice sponges and packs. On the fifteenth day the temperature was normal and remained so afterward. The patient resumed his duties as a butcher on the twenty-first day, against instructions, but no ill result ensued.

Case 2.—H. S., female, aged 18, single, a stenographer, complained of feeling tired. Family history and personal history were negative. Present illness began three or four days previously. She felt out of sorts, no pain anywhere, but bowels were very much constipated and breath was foul. There was some nausea and vomiting; no headache. Rest of history negative.

Examination.—Patient's temperature was 101.8, pulse 72; skin clear; mucous membrane was good color; chest was hot and flushed; tache cerebrale conspicuous. The tongue was covered with a dry, thick, gray coating. Heart and lungs were clear. There were no rose spots, no jaundice. Neither liver nor spleen was palpable; abdominal walls were soft and compressible. There were no enlarged glands, no soreness. The genitourinary system was normal, rectum smooth. Widal reaction was three times negative. Urine was clean. No bile was present. Leucocytes, 5,000.

Course of Disease.—The pulse never rose above 80 at any time and the nurse kept the temperature below 103.2, the highest point. This patient had no fever after the fourteenth day.

Neither patient had indulged in unsual food or had been out of the city.

Case 3.—R. P., male, single, aged 26, a lawyer, complained of feeling "badly" and a headache for six days. Family history and personal history were negative, except typhoid ten years ago.

Present Illness.—Patient had eaten no unusual food; had not been out of the city. There had been no nausea or vomiting; breath was fetid; otherwise unimportant. Bowels were regular and appetite was as usual.

Examination.—Patient's temperature was 104.2, pulse 80. Leucocytes, 7,500. Examination exactly as previous patients, except left lobe of prostate, which was distended. Urine was clear. Three typhoid and three paratyphoid tests negative.

Course of Disease.—Nurse succeeded in keeping temperature below 102.6 until the sixteenth day, when it declined rapidly to normal.

Case 4.—L. K., aged 26, male, single, grocer by occupation, was seen by Prof. George J. Preston and myself. The history of this patient is identical with that of Case 3.

Patient had a normal temperature on the seventeenth day. His temperature reached 105 three times. The onset was more acute, for he noticed a headache Saturday and came into my office Monday with a temperature of 103.2.

Case 5.—L. B., student, female, aged 20, single.

Course of Disease.—Fever reached 103.8. Tongue retained its dry fur for five days after the temperature reached 98.6, which occurred on the twelfth day.

Prof. John T. Chambers saw Case 1, while Case 3 was seen by Prof. William F. Lockwood with me. Dr. Henry Flood saw Case 5 with me. All of these cases

*This article was received June 12, 1906.
1. Two additional cases since June 12.

were considered mild cases of typhoid by the consultants and myself, at the time, even though there was complete absence of all typhoid symptoms and reactions. It was not until I saw the fourth case that I began to study my histories and notes, and realized that whatever the condition is, it is not typhoid.

CASE 6.—Dr. T. R., male, aged 34, single, was a patient of Dr. Louis F. Hamburger. The history of this case is the same as Case 1. Two Widals were negative.

In discussing these cases with some of the older men, who have been general practitioners for 25 years or more, they tell me such cases are constantly met with. They laugh at the idea that they are unclassified, and call them "typhomalaria," "gastrointestinal catarrh," "autointoxication," "aborted typhoid," "malaria," "acute hepatic fever," "acute gastritis," and similar names. It seems to me that more attention should be given to this class of cases, for they are the kind that rarely reach a general hospital.

1937 Madison Avenue.

Clinical Notes

PUERPERAL INFECTION.

REPORT OF A CASE.

THEODORE MERRILL, M.D.
COLORADO, TEX.

The proper treatment of puerperal infection depends fundamentally on the application of appropriate surgical methods when the evidences of such infection call for interference. The indications for surgical intervention are, of course, quite well understood and clearly defined; and after the careful performance of necessary surgery any remaining infection must be combated by the employment, singly or in combination, of (1) means of bodily stimulation and nutrition; (2) general therapeutic measures, including the use of the normal saline solution; and (3) special therapeutic measures of two kinds; antisepsis by preparations of silver, and the employment of a serum. The following case was one in which the serum treatment was tried in connection with general therapeutics and means of bodily nutrition. The use of silver preparations formed no part of the treatment.

Patient.—A young woman, aged 25, in her third labor.

History.—There was a history of a very difficult first labor, which was operative and followed by the delivery of an asphyxiated child, resuscitated with difficulty. After a tedious recovery the patient was treated during a long time for symptoms which, as described, pointed to an endometritis. The second labor was even more difficult than the first, was operative, and the child survived only a few hours. In both of these labors the trouble had been due to an abnormally large passenger.

Present Illness.—The patient came under my observation and care during the eighth month of her third pregnancy, which progressed uneventfully to the time of labor. Labor began October 20, with the discharge of the waters at 11 p. m. After twenty-seven hours of difficult labor a female child of eleven and one-half pounds was extracted at 2 a. m., October 22, through the aid of forceps. The placenta was delivered normally a few minutes after the extraction of the child. The labor was closed by the administration of a hot-water douche, the application of a gauze packing to the vagina and of three sutures to the perineum. The patient made a good immediate recovery, suffering somewhat from soreness. October 22 at 9 a. m. the patient was catheterized; catheterization was unnecessary after this. On October 23 at 11 a. m. the gauze packing was removed.

Pulse, temperature, lochia and other conditions continued normal to the eighth day, when there occurred a rise in pulse and temperature, and chills, which with other conditions after two days gave unmistakable evidence of sepsis. The lochia had a slight odor. Douching failed to control the symptoms and the uterus was curetted November 2. Intrauterine douche and packing applied November 3.

Serum Treatment.—Under general treatment the temperature declined gradually to normal until November 17. Morning temperature 101, evening temperature 104 F. Under these conditions of temperature, with the patient feeling very well, without pain, abdominal or otherwise, with absence of vomiting and chill, the serum treatment was begun. The following is a record of the dosage of serum and the temperature. During the entire illness the bodily nutrition was maintained as thoroughly as possible by appropriate feeding and stimulation:

November 18: Temperature, 7 a. m., 102.6; 2 p. m., 103.8; 6 p. m., 103.9; 10 c.c. of serum administered at 10 a. m. and 8 p. m.

November 19: Temperature, 8:30 a. m., 102.8; 12:30 p. m., 103.8; 6 p. m., 103.7; 10 c.c. serum administered at 1:30 p. m.

November 20: Temperature, 7 a. m., 100.8; 12:30 p. m., 103.6; 3:30 p. m., 102.6; 6 p. m., 103; 10 c.c. serum administered at 3:45 p. m.; urticaria present.

November 21: Temperature, 7 a. m., 102.8; 12 m., 102.8; 6 p. m., 102.6; 10 c.c. serum administered at 10:30 a. m.

November 22: Temperature, 7 a. m., 100; 12 m., 102.1; 6 p. m., 102; 10 c.c. serum administered at 1 p. m.

November 23: Temperature, 7 a. m., 100.7; 12 m., 100.7; 6 p. m., 102.1; no serum.

November 24: Temperature, 7 a. m., 98.6; 12 m., 99.5; 6 p. m., 102; no serum.

November 25: Temperature, 7 a. m., 98.6; 1:30 p. m., 101.8; 6 p. m., 102.1; no serum.

November 26: Temperature, 7 a. m., 100.7.

November 27: Temperature, 9 a. m., 97.

November 29 the patient was attacked by pain in left groin and hip which naturally suggested the possibility of a phlebitis or arthritis, but questioning elicited the fact of past irregular occurrence of rheumatic pain, and treatment directed along this line relieved the pain. She remained resting quietly until December 19, when she was discharged.

Subsequent History.—She made satisfactory progress subsequently, until the eighth month after labor, when menses failed to appear and remained absent for one year longer. The patient, however, did not return for advice until this time had almost elapsed. One year and six months subsequent to the delivery she came to me complaining of the following symptoms: Irregular pain above Poupart's ligament on both sides; a hemorrhagic leucorrhea (pinkish in color), constant nausea, swelling of ankles, attacks of weakness and fainting, temperature varying from 98.8 to 100 or 101 F.

Examination: Vaginal examination showed very lax tissues and what seemed to be a dense mass in pelvis. She was treated with tampons medicated with ichthyol and glycerin, and given daily douches of hot water. Tonics were administered internally. Under this plan the menstrual flow appeared, the symptom group departed and patient has been perfectly well ever since. The following dates may be of interest, whether as coincidences pure and simple or otherwise: Date of delivery of child, Oct. 22, 1903; date of normal menstrual return, June 22, 1904; date of actual menstrual return, June 22, 1905.

An analysis of the temperature record in this case fails to show a regular decrease, but it does show a fall with oscillations. There is no effect on the temperature evident as the direct result of an individual dose of serum, and, while conclusions drawn from an isolated case must not be given undue weight, the efficacy of the serum treatment as carried out in this case remains in question, for the fall in temperature under the treatment was not greatly different from the fall between November 3 (date of curettage) and November 17 (date of subsequent rise), although no careful record was kept of the temperature between these dates.

The patient's previous history, the late appearance of the sepsis, the rise in temperature after curettage, the return to normal, and the later features of the case, are all full of suggestions; but, so far as the main point of the case is concerned, personally the experience chiefly emphasizes the value of constitutional vigor and resistance, as assisted by proper food and general nutrition.

PYO-PNEUMO-APPENDIX, DUE TO OBSTRUCTION BY A FECAL CONCRETION.

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FT. WAYNE, IND.

Inasmuch as I have never met with a similar condition in a large experience, and have been unable to find a similar case reported in the literature at my hand, including the works of Deaver, Mynter, Lockwood, Holmes, Kelly, Maylard, Douglas and Hemmeter, I deem the following case worthy of record:

Patient.—Mr. D., a Lutheran preacher, aged 32, American, was referred to me by Dr. Cook of Bluffton, Ind. He entered Hope Hospital May 14, 1906. The following history was obtained.

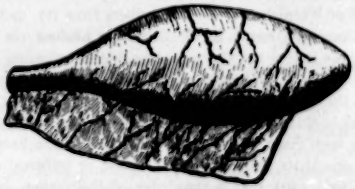

Fig. 1.—The appendix as it appeared fully distended, before it had partially emptied itself.

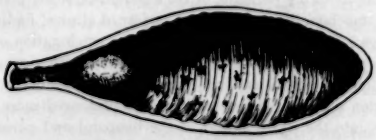

Fig. 2.—Longitudinal section with concretion *in situ*.

History.—He had never been seriously ill before. He ate heartily of fish one week ago and has had some nausea and heaviness in stomach every since. On May 10 abdominal pain commenced and on May 11, centered itself in the appendix region. He has vomited continuously for the past twenty hours. Pain is becoming worse.

Examination.—He is a well-nourished, dark-complexioned man. The abdomen is retracted, with tenderness and rigidity over the appendix.

A diagnosis of acute appendicitis was made; immediate operation was advised and accepted.

Operation.—Ether. After the patient was anesthetized the appendix could be palpated. McBurney incision. A little turbid fluid was found free in the peritoneal cavity. The appendix was found to be as large as the small gut, very much congested, slightly mottled with lymph, very slightly adherent but rather closely held to the back by reason of a short mesappendix very much thickened by inflammatory exudate. The appendix was elastic and tense to the finger. During the manipulation necessary to ligation of the mesappendix, a gurgle was heard and felt and the appendix suddenly collapsed partially. I naturally feared that I had ruptured it and spilled the contents into the abdominal cavity, but inquiry revealed the fact that it had partially emptied itself into the cecum. The operation was completed according to the method which I have been using for about two years, and which consists in ligating the mesappendix with small plain catgut, ligating the appendix flush with the bowel between two hemostats with fine linen, amputation of appendix one-fourth inch distad to ligature, cauterizing mucosa of stump with carbolic acid, crushing it with a hemostat, wiping the expressed débris down to surface of forceps and dropping, the wound in the abdomen being closed with buried sutures of plain catgut for the deep structures and adhesive plaster for the skin and subcutaneous tissue. When, owing to thickness of the fatty tissues, perfect coaption can not be accomplished with adhesive, a subcutaneous suture is employed.

Pathologic Examination.—After removal, the appendix was found to contain pus, fecal débris and gas, together with a fecal concretion, as large as a robin's egg and similarly shaped. This concretion was snugly wedged into the proximal end of the appendix and had evidently acted as a ball-valve, permitting some bowel contents to pass into the appendix and subsequently, owing to the vis-a-tergo resulting from accumulation of inflammatory products, preventing their escape into the bowel. The partial collapse with the gurgling which occurred during the operation was undoubtedly due to a partial opening of this "valve" and consequent escape into the bowel of some of the contents of the appendix. The accompanying drawings were made from the specimen.

207 West Wayne Street.

ACUTE CARBOLIC ACID POISONING: RECOVERY.

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Surgeon to Santa Fe Coast Lines.
ALBUQUERQUE, N. M.

History.—On July 3, a child, aged 2½ years, was hurriedly brought into the Santa Fe Hospital with the explanation from the mother that 5 minutes previously it had swallowed an indefinite amount of pure carbolic acid. A 2 ounce vial was found empty and a considerable burned area appeared on the chin, lips and neck. The child was limp and unconscious; respirations were slow and shallow; pulse was slow and feeble; pupils were contracted.

Treatment.—Although somewhat contrary to precedent, a small caliber soft rubber stomach tube was carefully and easily introduced and a saturated solution of magnesium sulphate was introduced and syphoned out. This operation was repeated until two quarts of the solution had been used when some 6 ounces were allowed to remain and the tube was withdrawn. Atropia sulphate 1/600 gr. was introduced hypodermically, as also strychnia sulph 1/200 gr.

Result.—Within half an hour the pupils responded to the atropia and pulse and respiration improved. In 2 hours the child showed some irritability and signs of returning consciousness; within another hour there was semi-consciousness and the child swallowed a small amount of lime water. Two hours later a small amount of milk and egg albumin was swallowed.

During the lavage small blood-stained masses of mucoid material were ejected. Vomiting followed freely, but within 12 hours milk was retained and the child was so greatly improved that recovery was assured.

The response to the atropin injection was so marked that it is my opinion that this procedure is entitled to the principal credit as a life-saving measure.

The child was catheterized during the first hour of treatment and, though the urine was at that time clear, shortly afterward it was of the characteristic cloudy appearance, so that, while the amount of carbolic acid swallowed is uncertain, it must have been considerably more than is usually considered a fatal dose.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

103 Dearborn Avenue . . . . Chicago, Ill.

Cable Address . . . "Medic, Chicago"

Subscription price.....Five dollars per annum in advance

[For other information see second page following reading matter.]

SATURDAY, AUGUST 11, 1906.

NEW IDEAS CONCERNING APHASIA.

Plausible ideas, with relatively little observational foundation, when put forward by distinguished medical men and especially if they refer to pathologic domains difficult of general access, very often attain to a credence that they do not deserve and, indeed, may be handed down from one generation to another until they become veritable medical dogmas. It would appear as though something of this sort had been going on in the field of aphasia; at any rate, an article of unusual importance has recently appeared which is so subversive of beliefs to which we have grown accustomed that it must seem to those who have not kept fully apace with the progress of ideas aphasic during the past few years nothing less than iconoclastic; to a few, perhaps, who have immersed themselves more deeply in the problems of motor and sensory aphasia, and followed the recent trend of work, the article of Marie[1] will come as less of a shock.

Marie, in the paper referred to, makes several bold assertions. He declares (1) that current ideas of aphasia are built up on a psychophysiologic theory of language which has no anatomic or clinical basis; (2) that the dominant feature in aphasia is a disturbance in the comprehension of speech, and that this disturbance is due, not to "word deafness," but to a real intellectual deficit; (3) that this intellectual deficit may be demonstrated in every case of aphasia, though the demonstration may necessitate a methodical examination; (4) that the erroneous idea that the intelligence is intact in aphasia has prevailed because the menal abnormality is not striking on superficial examination, the affective reactions being preserved or even exaggerated and the emotive mimic retained; (5) that Broca's aphasia (ordinary motor aphasia) is a syndrome entirely independent of the posterior part of the inferior frontal gyrus on the left side (Broca's convolution), cases being known (a), on the one hand, in which this gyrus has been destroyed, though speech had been undisturbed, and (b), on the other hand, in which the gyrus was intact, though typical motor aphasia had existed; though the gyrus is often destroyed in motor aphasia, the lesion is merely episodal, not causal; (6) that there is only *one* aphasia (by which he means the intellectual deficit whose main symptom is the loss of comprehension of speech, ordinarily called "sensory aphasia of Wernicke"); it is to be sharply distinguished from anarthria or dysarthria, (the condition sometimes called subcortical motor aphasia in which speech is lost or disturbed,though the patient hears, understands what he hears, and can read and write); (7) that the so-called motor aphasia or Broca's aphasia is nothing but aphasia (the sensory aphasia of Wernicke) plus anarthria; (8) that anarthria is due to a lesion of the nucleus lentiformis or its neighborhood (in *either* hemisphere), while aphasia (in Marie's sense) is due to a lesion of the zone of Wernicke (gyrus supramarginalis, gyrus angularis and the posterior extremities of the gyrus temporalis superior and the gyrus temporalis inferior), or the white matter underneath it, in the *left* hemisphere, the degree of aphasia being proportional to the extent of the lesions in this gray or white matter (so-called "global law"); (9) that motor aphasia (Broca's) being merely aphasia (Wernicke's or Marie's) plus anarthria, the lesions accompanying it correspond and consist of (A) the aphasic lesion in the zone of Wernicke (or the white fibers from it), and (B) the anarthric lesion in the lentiform nucleus (or near it); the lesions are almost always due to softening from thrombosis or embolism of the middle cerebral artery, and the extent of the lesion varies according as (a) the trunk of this artery (near its origin or after the branches have been given off to the gray ganglia at the base) or (b) one of its branches of bifurcation or trifurcation is involved; (10) that a knowledge of the various modes of distribution of the arteria cerebri media and the lesions following plugging of the different branches permit an understanding of the great variety of clinical findings known as "mixed aphasia," due to the combination of a more or less marked aphasia of Wernicke, with a greater or less degree of anarthria, according as the lesion in the region of the nucleus lentiformis is prolonged more or less into the white matter of the temporal and parietal lobes, or according as the lesion of the zone of Wernicke extends more or less into the neighborhood of the lentiform nucleus; every aphasia of Broca is a "mixed aphasia," with predominance of anarthria; (11) that a knowledge of the same arterial branches carries with it an explanation of the fact that in the aphasia of Broca the left gyrus frontalis inferior is sometimes involved in the softening, though without exerting any notable effect on the clinical picture. Startling statements these are, certainly!

It is promised by Marie that this paper, which is to be regarded as a preliminary communication, will be followed by a larger report, by himself or his pupils, containing the clinical and pathologic anatomic facts which support his views. That some of his ideas will not pass unchallenged we may be sure, though it seems to us that, as far as the uprooting of the error regarding the left inferior frontal gyrus is concerned, he has made

1. Marie P.: Revision de la question de l'aphasie: la troisième circonvolution frontale gauche ne joue aucun rôle spécial dans la fonction der langage. Sem. méd., Paris, 1906, xxvi, 241-247.

his point. At first reading one is inclined to criticise his apparent unwillingness to value the aid which introspective psychology has given us in the unraveling of the phenomena of aphasia; it may have led us into error, but it has certainly helped us in the discovery of much truth. And, further, it seems to us, that Marie, though rightly prizing the well-tried method of clinical observation controlled by autopsy, unduly scorns the work of the brain anatomist and of the experimental physiologist. Surely some of the ideas put forward by investigators in anatomy and physiology are fully as well established as is the Marie-Guillain "global" theory, for instance, or Marie's denial of special cortical localization for either word-deafness or alexia.

It is not our purpose, however, at this time to criticize, but to praise. The article is the most interesting and important contribution which has for a long time been made to the bibliography of aphasia, and we can not but recommend our readers to pay the most serious attention to the views it contains, promulgated, as they are, by the distinguished physician-in-chief to the *Bicêtre*.

SENSORY ILLUSIONS IN DIAGNOSIS.

The value of cutaneous sensations and other sensory phenomena in the realm of diagnosis is perhaps not sufficiently appreciated by the general practitioner. Men very often have feelings of peculiar character which they insist on rehearsing and to which the physician often pays but little attention, not realizing that they may be of precious significance as diagnostic aids. For instance, even the sensations of the patient suffering from delirium tremens when he complains of things crawling over him are not mental delusions entirely, but have a definite basis in certain modifications in the circulation to the nerve endings in the skin. Congestions in cutaneous areas give rise to feelings of heat, but more frequently special nerve activity is aroused either by the presence of too much blood or by anemia consequent on its absence. As a result there are sensations as if an insect were crawling over a portion of the cutaneous surface. This is not difficult to understand and may be illustrated from the symptoms of other diseases.

It is well known that when a patient is in the chilly stage of an attack of malaria, though he insists on covering himself up with many blankets in order to keep warm, and, though his teeth are chattering and all his muscles are trembling just as if he were suffering from cold, his temperature is not lower but actually higher than before, and a thermometer may reveal that a chilly patient under six blankets has an actual temperature of 103 or 104 degrees. The reason for this is not hard to find. When one is actually cold the arterioles in the skin contract in order to keep the blood from flowing through them, because it would thus lose its heat by exposure to the external cold. This shuts off the nutrition from cutaneous nerves and after a time the sensation of cold which is first felt becomes transformed to pain. The shutting off, as it were, of the blood supply to the muscles near the surface of the body causes loss of control over them, hence the trembling and the chattering of the teeth. Whenever, for any reason apart from cold, the arterioles in the skin and neighboring structures become contracted the sensation is translated as if it were cold. The malarial poison acts thus on the capillaries just when the malarial organism is being discharged into the blood in greatest numbers and consequently there is the chilly stage of this affection.

Other toxic substances act in different ways, each having its own specific effect on the sensory nerve terminals. Chronic alcohol poisoning, whether due to the actual accumulation of toxic materials or because the alcohol no longer neutralizes certain toxic substances that are being manufactured in the system because of ethylic overstimulation, is likely to produce certain phenomena in the cutaneous nerve mechanism which are translated as sensations from without. This is true for all forms of the illusions from which delirium tremens patients suffer. When they complain, for instance, of snakes crawling over them, there are actual cold sensations in the parts and "goose-flesh" is usually present. The seeing of snakes is due to the hypersensitiveness of the retina and the overdistended state of the capillaries of the eye, the two factors combining to project these tortuous arteries into space where they seem snake-like in character.

There seems to be no doubt that the preliminary symptoms of an attack of delirium tremens might be sooner recognized if more attention were paid to the first complaints of the patients with regard to such sensations. Something of the same thing is true with regard to cocain, morphin and other such poisons, the taking of which may not be suspected for some time. Cocain often gives the sensation of the presence of a veil over the face or as if cobwebs had been blown against it. These the patient wants to remove and certain groping gestures for this purpose are significant. Morphin, on the other hand, has a distinct tendency to cause certain portions of the body to get into the state that is described as going to sleep. A knowledge of the significance of such symptoms is always very valuable. Even deeper sensory phenomena may prove of diagnostic aid.

In these modern days it is extremely important that nothing that can be of the slightest value in diagnosis should be missed, and accordingly even the queer stories of patients' sensations might be listened to with attention in the hope that some significant feature may be recognized that will aid in solving the diagnostic problem. It has often seemed that the study of that department of physiologic psychology which is devoted to the explanation of the underlying basis of sensation and the exploitation of illusions should be definitely recognized as of importance in medical training.

INSURANCE EXAMINATION FEES.

As will be remembered, the House of Delegates of the American Medical Association, at the Boston session, appointed a committee to consider the question of insurance examination fees. It is on this account that for some time we have purposely refrained from making comments on the matter, hoping that this committee would be able to make a report. We understand that the committee has held several more or less satisfactory conferences with the executive officers of some of the larger insurance companies that have seen fit to commence their retrenchment reform by reducing their examiners' fees. These conferences were interfered with on account of the intrusion of the vacation period of those with whom the committee had to deal and also by the unsettled condition of the management of the internal affairs of some of the companies. Hence, nothing definite has thus far been accomplished, although we understand that the spirit of fairness and courtesy manifested on the part of those already consulted by the committee promises a favorable outcome.

Meanwhile, we earnestly urge that the profession, individually and through societies, maintain its contention for a restoration of the former schedule of examination fees. Evidences are continually being received to the effect that medical societies in nearly all parts of the country are resisting the reduction. We urge that this resistance be kept up, and that societies which have not taken up the matter do so at the earliest opportunity. It may be taken for granted that the companies will not restore their former fees if the examiners passively leave the matter in the hands of the companies. It should be remembered that it was a concerted action on the part of certain of the old-established companies that brought about the reduction; concerted action on the part of the examiners will compel the restoration of these fees, and without this co-operation on the part of the examiners the American Medical Association committee can accomplish but little.

But while we urge this resistance, we also urge that union methods be not adopted. In some instances—happily in only a few—threats have been made to expel or to suspend from society membership those who do not live up to the agreement to refuse to examine except at the old schedule. This is to be deplored. Medical societies are not trades unions and union tactics have no place in them. If we can not succeed with moral suasion, then we can not succeed. But we can and will, because, in this instance, legitimate and honorable resistance is all that is necessary for success. The standard companies want good men—well-qualified men—to pass on the physical condition of applicants, and it will not be necessary to use compulsion to get this class of physicians to stand with their fellows in their demand for simple justice. Hence, we need not fear the ultimate outcome. In fact, the resistance already made has had the effect of making several companies decide not to reduce their medical examiners' fees.

One of the strongest arguments, or excuses, offered by the companies is that the insurance law passed this spring by the New York Legislature compelled the action. In reply to this it is only necessary to say that several of the companies had made the change before the law was passed—in fact, in some instances before the bill was introduced. It is not at all probable that these companies had the gift of prophecy and knew that such legislation was coming. Undoubtedly, this New York law is compelling retrenchment, and possibly too much so, but if this can be proved to be the case the law undoubtedly will be modified. Further, it only applies in the State of New York.

One more thought: The companies say that physicians are making examinations for fraternal insurance companies for as small a fee as one dollar. It is to be regretted that such is the case. We are glad to say that in many instances in which societies have taken definite action they have recognized this, and reasonable fees for such examinations are to be demanded in the future. To make a thorough physical examination, with urinary analysis, for $1.00 is absurd. In fact, such examinations are not made. But is not a physician lowering himself when he fills out and signs a certificate which contains statements at the truth of which he has only guessed?

FOREIGN-BORN LEPERS AND THEIR TREATMENT.

An unfortunate leper from West Virginia, seeking to return to Syria and said to be provided with the necessary funds, has been made the subject of discussion between the authorities of two states and, according to the newspaper accounts, has received rather harsh treatment. He reached Maryland, and from there was escorted with the greatest precaution back to West Virginia, and now is said to be sojourning near Pickens in a tent pitched in a forest. In this case the spirit of the shotgun quarantine seems to have been aroused. There is considerable room for improvement in the public courage. Give a disease a specially bad name and the cowardice of the populace is all at once in evidence. The contagion of leprosy, though somewhat capricious and not yet fully understood, is certainly not excessively virulent and the danger of casual association in ordinary and proper ways is a minimal one. Even the closest association is not always effective in conveying the disease, and lepers are treated in doctors' offices, exhibited before medical societies and are nursed and cared for by non-lepers without any evidence whatever of resulting evil, provided the obvious rational precautions are observed. In any case it would seem to be good policy to further, rather than to hinder, the efforts of any alien leper desiring to return home, instead of doing our best to keep him back. The number of lepers in the country is insignificant, and there is little likelihood of their indigenous increase, except in certain localities, in spite of all that alarmists may say, but with the increased emigration from regions where leprosy is endemic it might be well to have some additional federal provisions for

the deportation of foreign-born lepers—some provision in the laws making the development of leprosy annul naturalization perhaps. We do not want lepers here and should not be forced to keep those who come from foreign lands with incipient leprosy.

THE OPIUM TRADE.

The present British Parliament has committed itself to the opinion that the Indo-Chinese opium trade is morally indefensible, a conclusion that has been adopted long since by nearly every one not connected directly or indirectly with the British revenue. It will be remembered by our readers that some years ago a rather voluminous report of a government commission appeared defending the British Indian opium trade and making out that the use of opium by orientals, excepting, perhaps, in Burmah, was not harmful. The testimony to this effect was furnished by British Indian officialdom and interested landed proprietors, while the missionaries —with one or two exceptions—the native authorities not connected with the opium trade and a few British officials were decidedly of the contrary opinion. That opium is a curse to China, which derives much of its supply from British India, has long been acknowledged, and there is considerable evidence by missionaries and disinterested authorities that the opium vice is a serious matter with the East Indians themselves. Whether Parliament will go beyond the resolution stage is yet to be seen, but it is hoped that moral ideas may overcome the long-standing policy of the British revenue officials and the commercial interests that have together been able to keep up the iniquitous business. It would seem as if there was a need of legal regulation of the opium culture in all countries. It is a valuable drug, but for other than medical purposes the world would certainly be better without it..

Medical News

ALABAMA.

Personal.—Dr. James E. Seay, Pratt City, is ill at his home.——Drs. Benjamin G. Copeland, Edwin P. Solomon and Ferdinand H. Turner will open a modern infirmary in Birmingham, October 1.

Correction.—The health officer of Birmingham informs us that an item of medical news in the issue of July 28 was incorrect, that there is no such individual as Thaddeus L. Robinson practicing in Birmingham and that Dr. Thaddeus L. Robertson, whose name is very similar, has always made prompt obstetrical reports.

CALIFORNIA.

Proposed Hospitals.—A hospital to cost about $50,000 may be erected at Los Angeles by the Southern California conference of the Methodist church.——The proposition to establish a hospital at Marysville with the coöperation of the railroads passing through that city, is again being agitated with prospect of early success.

New Hospital.—Plans are being prepared for the Sunset Hospital, San Francisco, to be built by the Sunset Hospital Association. The structure will be constructed of reinforced concrete, will be three stories and a basement in height, and will cover a ground space of 104 by 92 feet. The institution will contain 68 private rooms and two wards, and the roof will be occupied by a solarium and roof garden.

Personal.—Dr. Fitch C. E. Mattison, Pasadena, returned from his trip to the Atlantic coast, July 27.——Dr. Chester Rowell, Fresno, who has been seriously ill, is reported out of danger. ——Dr. David Powell, Marysville, has been appointed local surgeon for the Northern Electric Company.——Dr. John R. Colburn, Los Angeles, has gone to Japan.

DISTRICT OF COLUMBIA.

Communicable Diseases.—No new cases of scarlet fever were reported and 7 patients were discharged, recovered, leaving 18 still in quarantine. Diphtheria was increased by three cases, making a total of 4 cases under treatment at the close of the week. No smallpox was said to be in the District at the time of the report.

ILLINOIS.

Prosecution of Midwives.—Judgments for $100 and costs have been secured at Decatur, Macon County, against Mrs. Minna Girk and Mrs. Pauline Schulke, for practicing midwifery without having first obtained licenses from the State Board of Health.

Deaths of the Week.—Deaths from all causes for the week ended August 4 were 501, which is equivalent to an annual death rate per 1,000 of 12.75. Acute intestinal diseases caused 116 deaths; consumption, 56; violence, including suicide and Bright's disease, each 34; heart diseases and pneumonia, each 32; and cancer, 27. Sunstroke was responsible for two deaths.

Addition to Hospital.—An important addition will be made to Brokaw Hospital, Bloomington, this summer. The structure to be erected will be of brick, two stories in height, and located east of the original building. The new building will be devoted to baths, lavatories and rooms for electric and massage treatment.

Better Care for the Insane.—At a joint meeting of the State Board of Charities and of the trustees of the Illinois Eastern Hospital for the Insane, Hospital, it was decided to begin at once improvements in the system of nursing and attention to patients with night supervision and medical attendance. The establishment of a modern pathologic laboratory and the selection of a pathologist who will act also as instructor to the medical staff in special methods of examining cases and record keeping are planned.——A training school for nurses is to be opened in September with a three-year course.

Diphtheria.—Diphtheria was reported near Blue Mound, July 24, where 5 cases have occurred in one family. All possible efforts are being made by the authorities to prevent the spread of the disease.——At Edwards Station 6 cases of diphtheria have developed and others are feared.——Several cases of diphtheria are reported south of Roseville and one or two deaths have occurred at Swan Creek. Reports of the State Board of Health show that diphtheria is present in several localities in different sections of the state.

Mortality of 1906.—During the first seven months of the year, 639 more deaths were reported to the Bureau of Vital Statistics than during the corresponding period of 1905, which is equivalent to an increase nearly of nine-tenths of one per cent. in the annual death rate per 1,000 population. The chief increases in death-causes have been 270 from scarlet fever, 255 from pneumonia, 110 from violence other than suicide, 98 from cancer, 92 from acute intestinal diseases, 60 from nervous diseases, 53 from diphtheria, 47 from Bright's disease, and 33 from typhoid fever. Deaths from the following diseases decreased in number: Consumption, 36; smallpox, 57; convulsions, 53; measles, 105; bronchitis, 154; and whooping-cough, 216. The chief death-causes this year have been, pneumonia, 2,726; consumption, 1,943; Bright's disease, 1,233; violence, including suicide, 1,224; heart diseases, 1,219; and acute intestinal diseases, 1,117.

Successful Prosecution of Itinerant Vendors of Drugs.—In actions brought at the instance of the State Board of Health, judgments have been obtained in both Kane and Peoria counties against an itinerant vendor who styles himself "Phenomenal Kraus," and who heads an organization advertised as the "Hot Springs Doctors." This man has been mentioned frequently in these columns. A judgment for $100 and costs was secured against Kraus at Aurora, Kane County, July 30, and judgments amounting to $1,000 were obtained in Peoria, August 3. In an action brought against this defendant in Vermilion County two years ago the State Board of Health was unsuccessful. Judgments against two other itinerant vendors of drugs were obtained in St. Clair County, July 25, fines of $100 and costs being assessed in each case—one against Andrew Backe, representing the Clifton remedy, and the other against William S. Hill, representing the Rawleigh Remedy Company.

Chicago.

Dr. Senn Returns.—Dr. Nicholas Senn returned, August 3, from a trip to northern and eastern Africa.

Isolation Hospital Empty.—The Isolation Hospital has had no patients since July 18, when the last of the 19 smallpox patients discovered since January 1, was discharged, recovered. No deaths occurred from any of these 19 cases.

Low Mortality.—With one exception, July, 1904, the mortality for July was the lowest on record. The mortality of that month was equivalent to an annual mortality of 11.9 per 1,000. The death rate for July this year was 13.29 per 1,000. The deaths numbered 2,313, and intestinal diseases with 413; consumption with 254, and violence with 202 deaths headed the death causes.

Coroner's Investigations During July.—The coroner investigated 336 deaths in Chicago during July. Of these, more than 150 were due to violence; street car and railroad accidents led with 40 fatalities, followed by suicide with 33. During the month 24 individuals were drowned and one death only was charged to an automobile accident. During the month 14 homicides were reported and 11 deaths were due to Fourth of July injuries.

Mortality of the Week.—During the week ended July 28 there were reported 542 deaths, which is equivalent to an annual death rate of 13.7 per 1,000. Of the decedents, 146 were children under one year of age; acute intestinal diseases caused 122 deaths; consumption, 55; violence, including suicide, 50; heart diseases, 39; pneumonia, 37, and Bright's disease, 34. Scarlet fever caused 11 deaths; diphtheria, 5; typhoid fever, 4, and whooping cough, 3.

INDIANA.

Personal.—Dr. G. W. H. Kemper, Muncie, has been made emeritus professor of the School of Medicine, Purdue University, Dr. George R. Green, Muncie, succeeding Dr. Kemper as professor of history of medicine.——Dr. George H. Wells, Indianapolis, and Dr. Sam C. Norris, Anderson, have been appointed associate professors of sanitary science in the State College of Physicians and Surgeons, Indianapolis.

First Announcement.—The first annual catalogue and announcement of the School of Medicine of Purdue University, gives the reason for the merger of the medical colleges of the state as follows: "For the good of medical education, the three former medical schools of Indiana have united and have surrendered their rights and properties to one of the state universities. The Medical College of Indiana, the Central College of Physicians and Surgeons and the Ft. Wayne College of Medicine have become one, and as such have become a part of Purdue University under the name: Indiana Medical College, the School of Medicine of Purdue University."

A New College.—We are informed that a new college has been formed in affiliation with Indiana University at Bloomington, to be known as the State College of Physicians and Surgeons of Indianapolis. The first two years' work, it is reported, will be given at Bloomington and the last two at Indianapolis. As noted above three of the old schools of Indiana, namely, the Central College of Physicians and Surgeons and the Indiana Medical College, both of Indianapolis, and the Fort Wayne College of Medicine, of Fort Wayne, united, forming the Medical Department of Purdue University. But it seems that there are still to be two medical schools in Indianapolis.

Disease Prevalence.—During June the order of disease prevalence as reported to the State Board of Health was as follows: Rheumatism, diarrhea, tonsillitis, bronchitis, intermittent and remittent fever, cholera morbus, typhoid fever, scarlet fever, whooping cough, cholera infantum, dysentery, measles, peritonitis, pneumonia, pleuritis, diphtheria, influenza, erysipelas, smallpox, typho-malarial fever, cerebrospinal meningitis and puerperal fever. Smallpox was reported to be present in eight counties, 60 cases occurring, with no deaths. Typhoid fever was reported from 37 counties, with 105 cases and 39 deaths. Tuberculosis caused 315 deaths during the month, pneumonia 111 and violence 164. The total number of deaths for the month were 2,322, which is equivalent to an annual death rate of 10.6 per 1,000.

IOWA.

Hospital Enlarged.—Drs. Conn and Conn, Ida Grove, are enlarging their hospital by the addition of ten more rooms.

Smallpox.—Hopkinton is reported to have several cases of smallpox which has spread rapidly. It was as usual diagnosed as chicken pox.

Failed to Report Disease.—Dr. Frank J. Murphy, Sioux City, pleaded guilty to having violated the law concerning the prevention of contagious disease, and was assessed the minimum fine of $10.

Personal.—Dr. Cleanthus E. Birney, Estherville, coroner of Emmet County, has resigned.——Dr. Gilbert G. Cottam, Rock Rapids, has resigned as examining physician and member of the insane commission.——Dr. Geo. E. Decker, Davenport, has been appointed medical director of the Register Life Insurance Co., vice Dr. Andrew W. Bowman, deceased.——Dr. Maurice E. Wilson Estherville, has been elected coroner of Emmett County.——Dr. J. Leland Van Gorden, Emmettsburg, has been commissioned first lieutenant and attending surgeon of the Iowa N. G. and assigned to duty with the Fifty-sixth Infantry.——Dr. Robert E. Conniff, Sioux City, for four years president of the State Board of Health, retired from that office July 31, and was succeeded by Dr. Fred W. Powers, Waterloo.

KANSAS.

College Will Use Old Quarters.—It has been decided that no new building will be erected this year for the Kansas Medical College, Topeka.

Communicable Diseases.—During June 150 cases of smallpox were reported, with no deaths; 104 cases of tuberculosis, with 47 deaths; 61 cases of measles, with no deaths; 59 cases of typhoid fever, with 7 deaths; 36 cases of scarlet fever, with no deaths, and 25 cases of diphtheria, with 4 deaths.

Meffert to Cease Practice.—William Meffert, Emporia, whose license to practice medicine was revoked four years ago, but who has since been practicing, has agreed to cease practice, close his office, take out his telephone and receive no new patients. He is to be allowed to treat a few acute cases which he has on hand and also to treat a few chronic cases free of charge.

"Patent Medicine" Vendor Fined.—In the case of the state against J. W. Keasinger, tried July 28 for practicing medicine in Brookville without a license, the jury returned a verdict finding the defendant guilty on two of the three counts charged. The judge imposed a fine of $50 for each of the two counts and entered judgment against the defendant for the costs in the case, amounting to $99.25. In default of payment the defendant was committed to the county jail.

Hospital Notes.—The first building of the Eleanor Taylor Bell Memorial Hospital group, Rosedale, the medical pavilion, was opened yesterday. The pavilion has accommodations for 24 patients and is in charge of a superintendent and six nurses. The building cost, with the equipment, $25,000, and all medical cases are to be cared for in this building for the time being. The first surgical building is expected to be ready in October. ——The Santa Fé Hospital Association appropriated $10,000, July 31, for an addition to the Santa Fé Hospital, Topeka.

MARYLAND.

Arrives at Manila.—Dr. Harry T. Marshall, Baltimore, has been appointed pathologist of the United States Bureau of Science, Manila, and has arrived at Manila.

Addition to State Hospital.—The contract has been awarded for the erection of an addition to the Springfield State Hospital in Sykesville.

Deaths.—During the week ended July 28, 232 deaths were reported in Baltimore, 21 less than for the corresponding week of 1905. The mortality is equivalent to an annual death rate of 20.5 per 1,000. The chief causes of death were infantile diarrhea, 59; consumption, 23; debility, 17, and nephritis, 14.

Where Baltimore Physicians Spend the Summer.—Dr. Louis M. Allen in the Adirondacks; Dr. Jacob H. Hartman in Canada; Dr. George A. Fleming, Little Deer Isle, Maine; Dr. Lillian Welsh in Maine; Dr. William H. Baltzell at Aix-les-Bains; Dr. William T. Howland at Hot Springs, Va.; Dr. William H. Howell, Great Chebeague Island, Maine.

The Case of the Leper.—The leper, who was sent to Baltimore from West Virginia, on his way to New York, and who was refused passage through Philadelphia, was returned by the Maryland State Board of Health to West Virginia, and he is now occupying a tent in Randolph County, and is under the care of the West Virginia State Board of Health. We understand that orders have been issued that the leper be visited and examined by a surgeon of the United States Public Health and Marine-Hospital Service. He is believed to have had leprosy before he came to this country, and therefore to be deportable, under the immigration laws.

MICHIGAN.

Personal.—Dr. Frederick McOmber, Berrien Springs, who has been seriously ill with heart disease, is reported to be improving.——Dr. Thomas B. Henry, Northville, fell and injured his back while alighting from a street car in Detroit, July 25.——Dr. Fanny L. Draper, Jackson, will sail next month for Foo Chow, China, where she will be placed in charge of the Methodist Hospital.——Dr. Robert G. Marriner, Menominee, fell and broke his leg while getting out of his buggy, July 28.

June Mortality.—During June, 2,650 deaths were reported, a decrease of 377 over the previous month and an increase of 256 as compared with the corresponding month of 1905. The death rate was equivalent to 12.5 per 1,000 population. Among the important causes of death were: Tuberculosis, 263; accidents and violence, 207, 54 of which were deaths from drowning; cancer, 123; pneumonia, 120; diarrhea of infants, 96; meningitis, 43; measles, 36; diphtheria, 34; whooping cough, 33; typhoid fever, 20; scarlet fever, 15. One death was reported from smallpox, one from hydrophobia, four deaths from tetanus were reported, and nine deaths from lightning.

NEW YORK.

Smallpox.—The Board of Health, Bath, announces that there are three cases of smallpox in that village, and that many have been exposed to the infection.

No License for Medicine Venders.—In the future no licenses will be granted to street fakers and vendors of nostrums in Geneva. In issuing orders, the mayor stated that the loss in revenue to the city would be more than equaled by the amount saved by the people.

Additions to Faculty.—The following instructors have been added to the Albany Medical College: Drs. John F. Robinson and Frank G. Schairle, bacteriology and pathology; Dr. Arthur Holderig, radiography; Dr. A. Rulison, clinical microscopy, and Dr. W. A. Larkin, chemistry.

Personal.—Dr. Julius Pohlman, Buffalo, has returned from Glasgow.——Dr. H. U. Williams, Buffalo, is abroad.——Dr. Nelson G. Russell and Norman L. Burnham, Buffalo, have returned from Europe.——Dr. Samuel S. Carter, Haverstraw, who was recently operated on for appendicitis at the Nyack Hospital, July 23, is now out of danger.

Slaughter Houses Inspected.—Commissioner Porter of the Department of Health, declares that the recent inspection of slaughter houses and meat-making establishments by local health officers has been carried out thoroughly in nearly every part of the state. He says that, while a comparatively small number of establishments were found in which the conditions were considered insanitary, enough was discovered to show the value of maintaining an inspection of the establishments. The local boards have been advised to act in ordering the premises cleaned and general conditions bettered, and the result has been a marked improvement in a large number of these establishments.

New York City.

Impure Food at Bellevue.—A large number of nurses have been suffering from ptomain poisoning caused by eating canned foods.

Sixty-Year Record Broken.—There was no death reported at the coroner's office from 10 o'clock Sunday night, July 30, to Monday morning at 10 o'clock. This is the first time in sixty years that a Sunday night has passed without a death.

Garbage Crematory Denounced.—A mass meeting was recently held by the citizens of Rockaway Beach to denounce the garbage plant, and the politicians interested in it in particular. An epidemic of typhoid fever has broken out among the tent-dwellers near by, but the health inspector claims that it is due to impure drinking water and not to the garbage plant.

Anti-Tuberculosis Lectures.—The first public stereopticon exhibition of slides on the dangers of consumption and the proper means of combating the disease was given in Battery Park July 29. On August 1 the exhibition was given in City Hall Park, and on August 3 in Mulberry Bend Park. The last exhibition is booked for October 1. At present the slides are printed in English and Yiddish, but later will be given in other languages.

Contagious Diseases.—During the week ended July 28, 393 cases of tuberculosis were reported to the sanitary bureau with 147 deaths; 213 cases of measles, with 21 deaths; 166 cases of diphtheria, with 24 deaths; 98 cases of typhoid fever, with 10 deaths; 54 cases of scarlet fever, with 1 death; 43 cases of whooping-cough, with 16 deaths; 12 cases of cerebro-spinal meningitis with 12 deaths; and 18 cases of varicella—a total of 997 cases, with 231 deaths.

Bequests.—The will of Mrs. Amelia B. Lazarus, widow of Jacob Lazarus, bequeaths $10,000 each to the New York Institution for the Blind, the Manhattan Eye and Ear Hospital, the Montefiore Home for Chronic Invalids, and Mount Sinai Hospital; and $2,000 to the Good Samaritan Dispensary. After bequests to relatives and servants, the residuary estate is to be divided among several institutions, among which are the Montefiore Home and Mount Sinai Hospital.

City Death Rate Low.—The death rate for the week ended July 28 was not only lower than that of the corresponding week of 1905, but lower than the average for the past five years. This is attributable to favorable weather, but especially to increased rigidity of food and milk inspection. For 1906 the deaths from diarrheal diseases numbered 398 as against 483 in 1905. The death rate for the week ended July 28 was 18.4 per 1,000 as against 20.27 for last year, and an average for the past five years of 22.00.

Hospital Facilities Increased.—Through the purchase of an adjoining building the Metropolitan Hospital and Dispensary has increased its facilities from 16 to 34 beds. The medical board of the hospital comprises Dr. Fred H. Albee and Dr. Edward W. Lee, surgeons; Dr. Bernard S. Talmey and Dr. John A. Schmitt, internal medicine; Dr. Herman B. Sheffield, pediatrics; Dr. Max Talmey and Dr. Alois Schapringer, eye, ear, nose and throat. On the visiting staff are Drs. Gedi le A. Friedman, Morris Cisin, Israel Grushlaw, James E. Murphy, Robert P. Muellenback, Maurice Caspe and Augustus F. Dempewolff.

Personal.—Dr. Thomas Darlington, President of the Health Board, is to speak on "Civic Righteousness" at St. Bartholomew's Roof Garden next week.——Dr. and Mrs. Charles H. Chetwood and Dr. Gustav Seeligmann sailed for Europe August 31.——Drs. Peter A. Callan and Thurston G. Lusk sailed for Naples on the *Carpathia* August 31.——Dr. James A. Nichols sailed for London on the *St. Louis* August 4.——Dr. and Mrs. John Kepke sailed for Naples on the *Cretic* August 4.——Dr. J. Carlyle de Vries, formerly assistant surgeon in the United States Navy, has been appointed assistant attending surgeon at St. Bartholomew's Clinic.——Drs. James Battey and Edward J. Murphy had a narrow escape from drowning while attempting to rescue a stranger at Brighton Beach, July 20, but succeeded in saving the drowning man's life.——Dr. Matthew Chalmers was robbed of a valuable watch on Twenty-eighth street, near Fifth avenue, July 28.

NORTH CAROLINA.

Hospital Near Completion.—The hospital at Sanford is nearing completion.

Mortuary Reports for June.—During June, 306 deaths were reported, representing an annual death rate of 20.2 per 1,000. Diarrheal diseases caused 65 deaths; consumption, 36; heart diseases, 20; pneumonia, 14; typhoid fever, 11; and whooping-cough and accidents, including violence, each 9.

Morbidity for June.—The following diseases were reported from 74 counties of the state: Measles were reported in 22 counties, whooping-cough in 28, scarlet fever in 4, diphtheria in 4, typhoid fever in 57, malarial fever in 17, cerebrospinal meningitis and influenza, each in one, and smallpox in 20.

Personal.—Dr. Hubert A. Royster, Raleigh, has returned from a month at Maryland coast resorts.——Dr. Andrew J. Crowell, Charlotte, is spending the summer in Europe.——Drs. Stephen D. Booth, Oxford, and David A. Stanton, High Point, are spending the summer in Vade Mecum Springs, near Winston.

Smallpox.—From May 1, 1905, to May 1, 1906, there were 6,049 cases of smallpox reported in the state, 3,251 of which were among the colored population, and 2,798 among the white. Seventeen deaths occurred, 12 colored and 5 white. The disease was most prevalent in Hyde County, where it is estimated that 2,000 cases occurred.

Will De-license Liquor and Drug Habitués.—The State Board of Medical Examiners, at its recent session, emphatically expressed its willingness to de-license any physician of the state whose addiction to the alcohol or drug habit has gone to such an extent as to unfit him for proper practice of his profession by calling the attention of the state and county societies to the matter and asking their coöperation.

PENNSYLVANIA.

To Protect Children.—The Pennsylvania Society to Protect Children from Cruelty has arranged to have every child with whom it deals, from families where drunkenness, immorality

and cruelty are rife, carefully examined physically and mentally to determine not only the presence of any immediate disease, but whether there are any lurking symptoms of disease or any mental retardation which would still further the child's chances of becoming a diseased and suffering citizen. The Philadelphia Board of Health has given the services of two of its medical inspectors, Dr. Alexander C. Butcher and Dr. Lewis C. Wessels, who visit the homes five days a week and examine the eyes, ears, nose and throat of from ten to eighteen children, and Dr. Alfred Gordon follows with careful mental examination. A card catalogue of pathologic conditions is kept, and the consent of the parents is secured, whenever possible, for operations which may be deemed necessary by the examining physician.

Philadelphia.

Health Report.—The total number of deaths reported for the week aggregated 511. This is a decrease of 46 from last week, and an increase of 27 over the corresponding week of last year. The principal causes of death were: Typhoid fever, 10; whooping-cough, 10; diphtheria, 6; consumption, 62; cancer, 17; apoplexy, 17; heart disease, 30; acute respiratory disease, 32; enteritis, 115; cirrhosis of the liver, 6; appendicitis, 4; Bright's disease, 32; suicide, 8; accidents, 22; and marasmus, 11. There were 165 cases of contagious disease reported, with 16 deaths, as compared with 170 cases and 22 deaths reported in the previous week.

In Europe.—Dr. and Mrs. James M. Anders are touring Europe.——Dr. and Mrs. Eugene Townsend sailed for Europe July 31.——Dr. and Mrs. Harry Lowenburg sailed for Europe August 8.——Dr. J. William White sailed for Europe August 1.

Bequests.—The will of the late Horace M. Potts bequeathes $5,000 to the Hospital of the University of Pennsylvania for the endowment of a free bed, and $10,000 to the Orphans' Home and Asylum for the Aged Insane of the Lutheran church. With the exception of a few private bequests the remainder of his estate, valued at $75,000, is divided between the Academy of Natural Sciences and the University of Pennsylvania.——By the will of the late Miss Mary Castle the Little Sisters of the Poor receive $1,000.——By the will of the late Isabella Culbertson the Sheltering Arms Hospital receives $500.

SOUTH DAKOTA.

Personal.—A recent fire at Roscoe destroyed the residence of Dr. J. A. Rott, with a loss of $3,200.——Dr. Edward C. Day, Platte, was thrown from his buggy in a runaway accident and fractured his arm.——Dr. Homer Denman, De Smet, has been appointed superintendent of health for Kingsbury County, vice Dr. J. E. Coulter, resigned.——Dr. Robert L. Murdy, Aberdeen, suffered dislocation of the right shoulder in an automobile accident July 8.——Dr. Granville J. Coller, Brookings, a pioneer physician of Brookings County, retired from practice July 1.

Hospital Notes.—Drs. Boyden and B. T. Green, Brookings, have established a hospital in that city.——Yankton is to have a $50,000 hospital, to be maintained by the Sisters of Mercy and to accommodate from fifty to seventy patients.——Dr. Edward A. Hoefer is arranging for the erection of a hospital in Clear Lake.——A hospital is to be established at Miller, with Dr. William H. Lane at its head.——The Rapid City Hospital has been incorporated.——The Aberdeen Hospital and Sanitarium has been incorporated, with a capital of $100,000. The hospital will contain two public wards and eighteen private rooms and is expected to accommodate 250 patients. The medical men among the incorporators are Drs. Robert L. Murdy, Frank Miller and George E. Countryman.

TEXAS.

Epidemic at Asylum.—Cholera morbus prevails at the Insane Hospital, Terrell. About 400 patients are suffering from the disease.

Local Physicians Organize.—The physicians of Hillsboro organized a medical association, July 23, with the following officers: President, Dr. George D. Bond; vice-president, Dr. John Buie, and secretary, Dr. D. T. Atkinson.

Infirmary at Marlin.—Dr. John W. Cook's infirmary is completed and will be formally opened in a few days. It is a three-story brick building, equipped in modern fashion and connected with the hot artesian wells of Marlin.

Personal.—Dr. Harry D. Bartnitz, San Antonio, who has been suffering from septicemia, is now convalescent.——Dr. Joe S. Blackburn, Fort Worth, is reported to be one of the heirs of the Blackburn estate in England. His share is said to be more than $3,000,000.——Dr. Thomas D. Wooten, Austin, is seriously ill at Eureka Springs, Ark.

Vital Statistician Needed.—The physicians of Texas asked the late legislature to pass a law creating a statistician for the health and vital statistics of the state. This request the legislature complied with, but failed to make any provision for the salary of a statistician. The statistics, consequently, are being heaped up by the wagonload in the State Department of Health without any provision for filing or otherwise disposing of them.

Hospital Arrangements.—The general manager of the Missouri, Kansas & Texas Railroad has notified all officials of the new hospital arrangements for Texas. The Providence Sanitarium at Waco is to be the general hospital for the company in Texas. Arrangements have also been made with the Houston Infirmary, the Sisters of the Incarnate Word, Fort Worth; St. Paul's Sanitarium, Dallas, and Santa Rosa Infirmary, San Antonio.

Pasteur Institute Report.—Dr. Benjamin M. Worsham, Austin, superintendent of the State Lunatic Asylum and in charge of the State Pasteur Institute, reports that up to date 291 patients have been treated, only one of whom died. At present there are nineteen patients in the institution, which is more than self-sustaining. The treatment costs $25 per patient and payment is left to the honor of the individual. Up to the present time the institution has paid for its maintenance and has a cash surplus of more than $1,400.

Revision of National Guard Organization.—In general orders No. 10, issued July 9, revising the Texas National Guard organization, the following changes are made in the medical department:

The medical department will consist of one surgeon-general with the rank of colonel, one deputy surgeon-general with the rank of lieutenant-colonel, seven surgeons with the rank of major, seven assistant surgeons with the rank of captain, seven assistant surgeons with the rank of first lieutenant, and a hospital corps of five sergeants, first class; fifteen sergeants, thirty privates, first class, and fifteen privates.

Mosquito Extermination.—The Department of Public Health and Vital Statistics has sent to all health officers a paper prepared by the city health officer of Galveston on "Mosquito Extermination," and a paper issued by the department on "General Information for the Prevention of Yellow Fever and Destruction of the Mosquito," with the urgent request that the health officers put them before the citizens and endeavor to secure their immediate coöperation in sanitary matters, especially with regard to the destruction of the mosquito and the consequent extermination of yellow fever.

Car Hygiene.—The state health officer has put in force the following rules for sleeping cars:

1. Each sleeping car used for passengers must be provided with at least one cuspidor for each section or compartment, cuspidors to be emptied and cleansed thoroughly at the end of each trip, or every twenty-four hours.

2. The floors of all cars may be swept in transit, provided that they are first thoroughly sprinkled with water to prevent raising dust. If it is desired to remove rubbish or trash with broom and dustpan from portions of the car while in transit, sprinkling will not be necessary. Dusting of cars with a brush is prohibited, but it may be removed from walls and seats with a cloth.

3. Containers of water for drinking in cars must be emptied and thoroughly cleansed at the end of each trip.

4. Ice which is used in water coolers in cars must not be dumped on floors, sidewalks or car platforms, where people have to tread and expectorate. It should be handled with ice tongs to place it in the coolers.

5. All persons are prohibited from spitting on the floors of cars.

6. All sleeping cars must be disinfected in a manner approved by this department at the end of each third round trip, where the cars do not leave the State of Texas.

Sleeping cars leaving the state are to be fumigated every second trip, where the trips are of not more than four days' duration, and every trip if of longer than four days' duration, and every third trip if only one night run.

Sleeping cars crossing the state are to be fumigated each round trip of six to eight days' duration, and at the end of each single trip where round trip is of more than eight days' duration.

All carpets, curtains, blankets and bedding, except linen, to be disinfected with cars.

Provided, that when any sleeping car is known to carry a case of infectious or communicable disease it must be fumigated at the end of that trip, or it may be disconnected from train and fumigated at any station if required by this department.

7. All sleeping cars must be thoroughly cleansed at the end of each trip.

8. In the event that sleeping cars passing through the state are not fumigated at the terminals outside of the state, as required in Rule 6, then they will be required to stop at some point inside of the State of Texas, approved by this department, for fumigation.

9. All persons must be prohibited from washing their teeth over or expectorating in the basins which are used for bathing face and hands in sleeping cars. Large cuspidors should be provided for such purposes.

The following sanitary rules for day coaches have been put in force:

1. Each day coach used for passengers must be provided with at least six cuspidors, cuspidors to be emptied and cleansed thoroughly at the end of each trip, or every twenty-four hours.

This rule shall not apply to parlor cars, except that cuspidors must be provided for the smoking compartment.

2. The floors of all cars may be swept in transit, provided that they are first thoroughly sprinkled with water to prevent raising dust. If it be desired to remove rubbish or trash with broom and dustpan from portions of the car while in transit, sprinkling will not be necessary. Dusting of cars with a brush is prohibited, but it may be removed from walls and seats with a cloth.

3. Containers of water for drinking in cars must be emptied and thoroughly cleansed at the end of each trip.

4. Ice which is used in water coolers in cars must not be dumped on floors, sidewalks or car platforms where people have trod and expectorated. It should be handled with ice tongs to place it in the coolers.

5. All persons are prohibited from spitting on the floors of cars.

6. Day coaches used for passengers must be fumigated whenever the necessity exists at some point in this state acceptable to this department.

If a car becomes infected by being occupied by a person having a contagious disease it must be disinfected immediately at end of run.

UTAH.

Personal.—Dr. Joseph E. Scallon, Salt Lake City, has been appointed chief physician of the Hancock Consolidated Mining Company, Hancock, Mich.——Dr. Ray E. Carnahan, Ogden, is critically ill at his home.

County Association Admits Members.—At a regular meeting of the Utah County Medical Society, held at Provo, July 11, it was decided, in view of the requirements of the American Medical Association, to admit to its membership qualified physicians of the adjoining counties in which there is at present no county society.

Misdemeanor of Health Officer.—The attorney-general has decided that the city health commissioner of Salt Lake City committed a misdemeanor when he caused a scarlet-fever patient to be released from quarantine without the consent of the attending physician. The decision of the attorney-general is as follows:

A case presenting the typical symptoms of scarlet fever, diagnosed and reported as such by the attending physician, who thereafter discovers no evidence to change his opinion, is duly quarantined and a flag placed by the local board of health. Has the health officer the right or power to visit the said patient without the knowledge or consent of the attending physician at the end of the second week of the quarantine and thereon assert that the patient was not and had not been afflicted with scarlet fever, also removing the flag, releasing the patient without disinfection and raising the quarantine?

So far as material to the question submitted, section 12 of chapter 45, session laws of 1899, reads as follows: "It shall be the duty of every physician or other person caring for the sick in the State of Utah to make a report to the local board of health immediately after such person becomes aware of the existence of any case of scarlet fever, diphtheria, smallpox, etc., in his or her charge," and a penalty is attached for failure to do so.

When this report is made the person must be quarantined and a yellow flag be displayed on the premises where such person is domiciled and shall not be removed or taken down for twenty-one days, and no person who has been affected with scarlet fever, etc., shall be permitted to leave the house during the same period in which he or she is quarantined without a permit from the board of health, to be issued on receipt of a certificate from the attending physician that all danger of communicating the disease has passed. The law seems to be plain and unambiguous and does not demand any technical interpretation to discover its meaning.

If a person is stricken with scarlet fever or other contagious disease the physician in charge must report the case to the local board of health, and the person so afflicted must immediately be quarantined and prevented from carrying the disease to others, and this quarantine must last twenty-one days unless the attending physician shall sooner be satisfied and certify that all danger of communicating the disease has passed. Without this certificate no one is authorized to raise the quarantine or to tear down the flag, and if any one does so he is guilty of a misdemeanor and should be punished. The quarantine regulations are for the protection of the community and the safety of the people and should be vigorously enforced.

The censors of the Salt Lake County Medical Society, despite the opinion of the attorney-general, insist that the health commissioner had not violated the ethics of the profession.

VIRGINIA.

Hospital Closed.—Hygiea Hospital, Richmond, will be closed until September 1 to provide for the remodeling and enlargement of the institution. A roof garden for the use of patients is to be added.

Personal.—Dr. E. C. Levy, city bacteriologist of Richmond, has been elected chief health officer of that city. Dr. E. Guy Hopkins has succeeded Dr. Levy as city bacteriologist.——Dr. William McC. James, Richmond, has been appointed assistant surgeon at Panama.

Cocain Selling.—James Hill, a colored vendor of cocain, of Richmond, on July 19, was fined $100 with imprisonment for one year in default of $500 security.——Fred Valentine, Manchester, a negro cocain seller, who was arrested recently on the charge of selling cocain, was found to have thirty-two packages of the drug on his person.

Faculty List.—The Medical College of Virginia announces the following list of faculty for the coming session:

Christopher Tompkins, M.D., dean of the faculty and emeritus professor of obstetrics; John S. Wellford, M.D., emeritus professor of diseases of women and children; M. L. James, M.D., emeritus professor of practice of medicine; J. W. Long, M.D., emeritus professor of diseases of women and children; Henry H. Levy, M.D., emeritus professor of practice of medicine, lecturer on diseases of nervous system; William H. Taylor, M.D., professor of chemistry, toxicology and medical jurisprudence; George Ben Johnston, M.D., professor of abdominal surgery and clinical gynecology; Lewis C. Bosher, M.D., professor of practice of surgery and clinical surgery; C. A. Blanton, M.D., professor of diseases of children; William P. Mathews, M.D., professor of orthopedic surgery; John P. Davidson, M.D., professor of diseases of the eye and ear; Charles M. Hazen, M.D., professor of physiology; Ennion G. Williams, M.D., professor of histology, pathology and bacteriology; J. Shelton Horsley, M.D., professor of principles of surgery and clinical surgery; Frank M. Reade, M.D., professor of materia medica and therapeutics; Daniel J. Coleman, M.D., professor of obstetrics and diseases of the puerperal state; Clifton M. Miller, M.D., professor of diseases of nose and throat and instructor in diseases of the eye and ear; Charles R. Robins, M.D., professor of gynecology; J. Fulmer Bright, M.D., professor of anatomy, and Manfred Call, M.D., acting professor of practice of medicine.

WASHINGTON.

Pardon Sought and Refused.—The governor has denied the petition for pardon presented by the attorney of Dr. Mary A. Latham, Spokane, who is now serving a sentence of four years in the state penitentiary for arson. At the proper time, it is stated, records will be sent to the superintendent of the prison, who may, if he chooses, grant a parole.

Hospital News.—The Broadway Hospital and Sanitarium, Seattle, is planning to erect a new building, to cost $100,000 and to have accommodations for 250 patients.——Improvements are being made to the Deaconess Hospital, Spokane, including a wing on the east side of the building, which will accommodate fifty-five additional patients, at a cost of $20,000.——A building has recently been purchased in Garfield by Dr. L. J. Coberly, which has been remodeled for hospital purposes and is open to all regular practitioners.

Personal.—Dr. William H. Olds has been elected president of St. Luke's Hospital, Spokane, vice Edwin L. Kimball, term expired; Dr. Edward R. Northrop, secretary, and Dr. Frank Hinman, interne, succeeding Dr. John P. Corkery.——Dr. Harvey J. Felch, Ellensburg, is reported to be seriously ill in South Missoula, Mont.——Dr. Arthur P. Calhoun, of the Eastern Washington Hospital for the Insane, Medical Lake, has been appointed superintendent of the Western Washington Hospital for the Insane, Fort Stellacoom, vice Dr. Euclid Van Zandt, Bellingham, resigned.

Attack Constitutionality of Law.—To test the constitutionality of the statutes of Washington in regard to the practice of medicine and surgery, Drs. O. V. Lawson, Arthur George, P. J. Smith and J. D. Peters have filed suit in equity against the State Board of Medical Examiners and its individual members. The complainants state they are competent physicians and are able to comply with the state laws regulating medicine and surgery, but are denied their right under the act of legislature which provides for a state medical board vested with examining and licensing powers. They further charge that they are denied the right to be examined, because under the provision of the act each applicant for examination must be a graduate of a medical college which now has a four-year course. They state that there is no such medical college in the state and that the board conducts its examinations in an "unreasonable, unfair and arbitrary manner," asking misleading questions, confusing to applicants, and thus affording itself a pretense for denying the licenses.

WISCONSIN.

Practicing Without License.—On complaint of Dr. Wilbur T. Sarles, Sparta, president of the State Board of Medical Examiners, Jacob Green was arrested at Tomah, July 30, pleaded guilty to practicing medicine without a license and was fined $50 and costs.

Personal.—Dr. Joseph F. Gill, Madison, has been appointed city physician, vice Dr. Theodore W. Evans.——Dr. L. H. Anderson, Bayfield, while handling a revolver, July 9, shot a toe from his right foot.——Dr. Charles H. Mason, Superior, has been made president of the Scandinavian Workingmen's Association of America.——Dr. Edwin J. Farr, Eau Claire, has been made grand master of the Masonic fraternity of Wisconsin.

Fined for Criminal Practice.—Dr. Edward Schnittker, Milwaukee, charged with having performed a criminal operation on Miss Bertha Krause, was found guilty, July 20, and fined $250 and costs. The fine and costs were paid by the defend-

ant's mother. The charge of his having performed a similar operation on Miss Anna Severson is still pending. Action to have the medical license of Dr. Schnittker revoked has been begun in the circuit court by F. E. McGovern, district attorney of Milwaukee, and A. C. Umbreit, attorney for the State Board of Medical Examiners, on the ground that since the issuing of his license Schnittker has been "guilty of immoral, dishonorable and unprofessional conduct."

GENERAL.

The Surgical Treatment of Intestinal Indigestion.—In Society Proceedings, July 21, page 230, in the report of the meeting of the Cincinnati Academy of Medicine, it should have been stated that Dr. Earl Harlan discussed the subject "Surgical Treatment of Intestinal Indigestion." By mistake, the word "intestinal" was omitted.

The Arkansas Journal.—The Arkansas Medical Society has converted the neat and attractive little *Bulletin*, formerly published by the society, into a full-fledged and very creditable journal, known as the *Journal of the Arkansas Medical Society*. Dr. C. C. Stephenson, Little Rock, is the editor-secretary. The publication was begun in June and the second number has just appeared. It is neatly and attractively gotten up, 7x10 in size, and, judging from the two numbers already issued, will take rank among the active and influential journals. In the July number appears the full report of the annual meeting of the Arkansas Medical Society at Hot Springs in May, also much interesting matter in the shape of news items, letters, reports of county societies, etc. There is no doubt that this new member of the sisterhood of state society journals is capable of exercising and will exercise great good on the members of the Arkansas Medical Society, as well as on the medical profession of the State of Arkansas.

Smallpox at Colon.—Acting Assistant Surgeon Mohr of the Public Health and Marine-Hospital Service, reports that since the first cases of smallpox were discovered on July 9, 13 new cases have developed from the original focus. All of the patients with a number of contacts have been isolated in a temporary camp. A cordon has been placed around the infected area where all suspects have been vaccinated and held to complete the period of incubation after the disinfection of all suspected houses is accomplished. A general vaccination will be instituted as soon as a supply of vaccine can be obtained. New cases continue to appear among the negroes living in the infected area. On July 16 6 cases were found among those quarantined in the infected district, and 6 cases have developed among the contacts isolated in the camp. The infected district is very densely populated, as many as 140 people having been found inhabiting two or three houses. A large number have been vaccinated, and as soon as a sufficient supply of vaccine matter is received a general vaccination will be instituted. Thus far there have been no deaths from the disease, and among the cases no deaths are expected to occur, as the disease is running a very mild course.

CANADA.

British Medical Association.—Almost all the buildings of the University of Toronto will be utilized in connection with this meeting. It will have six or eight of the sections, and in addition will provide offices for the secretariat and the editor of the *British Medical Journal*, a postoffice, reception room, museum and a space of 15,000 square feet for exhibitors. It is hoped that the new convocation hall will be completed in time to enable the ceremony of the official reception and the public addresses to take place there. Accommodation is being provided in the various dormitories and fraternity houses of the university for the visitors. One of the most pleasant features provided by the entertainment committee is the excursion to Niagara Falls on invitation of Sir Henry Pellatt. The summer rates which are in force at the time of the meeting will, as a rule, be lower than the fare and one-third authorized by the various passenger associations. There will undoubtedly be a large attendance from the United States.

Publication of Papers.—Dr. Dawson Williams, the editor of the *British Medical Journal*, in a recent circular announces the regulation of the association as regards the exclusive right of publication in the journal of all papers read before the association. He states, however, that the journal is always open to any reasonable arrangement with the author or with any other journal. Dr. Williams will arrive in Toronto, August 19 or 20, and will have his office in the southeast corner of the main building of the university on the first floor.

FOREIGN.

The Imperial Cancer Research Fund.—The annual meeting of the Imperial Cancer Research Fund was held in London, July 25. The report of the executive committee gave a sketch of the work done during the past year. Various "cancer cures" were examined, the report states, but investigation failed to show that they had any value. Dr. Ernest Bashford, the general superintendent, in his report, stated that the results of the investigations made during the past three years of the fund's existence in spontaneous development of cancer in human beings had led to an alteration in the details of the work. He pointed out that the facilities for ascertaining the occurrence of this disease in native races and within different geographical areas are unique. He also gave some interesting statistics concerning cancer in native races. In referring to the experimental work Dr. Bashford stated that the results "only indicate the possibility of rendering normal mice unsuitable for the growth of experimental cancer. They have not enabled us to arrest the progress of experimental tumors, far less to effect the cure of the disease occurring naturally."

Food Adulteration in New South Wales.—The *Australasian Medical Gazette* states that at a recent meeting of the municipal council of Sydney it was agreed that: "The city health officer be instructed to furnish returns to the health committee for presentation to the council showing the names of all persons fined for selling adulterated food, the nature and percentage of adulteration, and, where practicable, the name of the manufacturer of any adulterated food product." At a recent meeting of the Board of Health of Victoria regulations for securing the cleanliness and freedom from contamination of articles of food were adopted with amendments. These regulations refer to milk, cream, butter, cheese, cooked meats, bread, pastry, confectionery, honey, jam and other articles of food to which flies are attracted, and which are ordinarily consumed in the condition in which they are purchased. Persons who sell on any wholesale or retail premises, including *cafés*, restaurants and licensed premises, are, so far as practicable, to protect such articles from dust and flies by storage in covered receptacles or by means of metal covers, wire gauze screens, or other effectual appliance. The second provision declares that no person shall transport through the street for sale any of the above-mentioned articles of food unless they are so far as practicable protected from dust and flies. The regulations will come into operation on Nov. 1, 1906, and the maximum penalty for a breach of them is $50.

LONDON LETTER.

(From Our Regular Correspondent.)

LONDON, July 28, 1906.

Dust and Disease.

At the Royal Sanitary Institute's Congress held at Bristol, one of the papers which gave rise to the most interest was on the influence of dust on health. It was read by Dr. P. Boobyer, Nottingham, who considers that we are not sufficiently careful in discouraging the dissemination of dust in ordinary life. We should have streets paved with smooth material, check so far as possible the depositing of refuse in streets and yards, forbid the sweeping of house dust into the streets, forbid the shaking of mats and carpets outside houses, encourage the burning of all house refuse and pursue a vigorous campaign against the smoke nuisance. During the discussion comment was made on the responsibility of motorists, fast riding being strongly deprecated. Some one asked what the poor housewife is to do amid all these reforms. The remark was made that it is strange that people should take off their hats on entering a house instead of their boots which had been collecting refuse in the streets. Dr. Boobyer advocated municipal carpet cleaning and reform in public scavenging.

Action for Damages in Consequence of Injury Produced by the X-Rays.

A man in the early stage of locomotor ataxia was sent by his physician to a firm of chemists for treatment with the *x*-rays. The rays were applied ten or eleven times and the physician was never present. The man who administered the treatment often left the patient during the sitting. The machine emitted great sparks and once or twice gave the patient a shock, but being quite ignorant, he made no complaint to his physician. His feet began to blister, for weeks he suffered greatly and his screams were such that lodgers left the house. Eventually, the soles sloughed off and he became unable to walk. He brought an action for damages against the firm of chemists. Mr. Chisholm Williams, superintendent of

the *x*-ray department of the West London Hospital, was called as a witness. He said that it was evident that the plaintiff had been placed too near the instrument—12 or 18 inches is the proper distance, not 2 or 3. In cross-examination he admitted that the use of the *x*-rays is a recent innovation, and that even physicians are burned at times. The plaintiff's physician said that he had never administered the rays, and that he had only studied the subject from books. He said that he thoroughly trusted the defendants, who had often administered the treatment for him, merely telling them the part to which the rays were to be applied. For the defense it was urged that the defendants were not liable for mistakes of the physician. Witnesses were called to show that it is essential that a physician should be present as well as the person who administers the treatment. The defendants stated that they had not studied the properties of the rays or administered them from a therapeutic point of view. The jury returned a verdict for the defendants.

A Dying Profession.

According to the ex-president of the Royal College of Veterinary Surgeons, in three years there will be employment in London for only 300 veterinary surgeons. The remainder will have to follow the horse. Before the introduction of motor cars and motor omnibuses there were 6,000 veterinary surgeons in London.

Insurance Fees and Lodge Practice

Societies Take Action.

THE DE SOTO COUNTY (FLA.) MEDICAL SOCIETY.

At a recent meeting of this society the following resolutions were adopted; they were also concurred in by all the other physicians in the county:

WHEREAS, The class of examinations required by life insurance companies is of a nature that entails responsibility, and which in justice to the medical profession should not be made for a less fee than five dollars heretofore allowed, and, whereas, we charge a similar fee to private patients for examinations of like character, therefore be it

Resolved, That we, the undersigned, members of the De Soto County Medical Society, hereby agree to make no examinations for any life insurance company, or society, for a less fee than five dollars (£5.00).

Resolved, Further, that these resolutions be forwarded to THE JOURNAL of the American Medical Association and to the respective life insurance companies, whose accredited examiners we are.

D. L. MCSWAIN, President.
C. H. SMITH, Vice-President.
R. L. CLINE, Secretary.
ED GREEN, Treasurer.
D. N. MCQUEEN.
KIRBY H. SMITH.
SAMUEL D. SMOKE.
G. W. DAWSON.
M. R. GILL.
T. J. MYERS.
D. H. VAUGHN.
W. S. HART.
Y. E. WRIGHT.
J. E. GARNER.
J. M. BERSON.
F. Y. HANNA.
J. R. MOORE.
J. B. MOBLEY.

WHITMAN COUNTY (WASH.) MEDICAL SOCIETY.

At a meeting of this society at Palouse, Wash., July 9, 1906, a resolution was adopted by a unanimous vote of the society to the effect that the members of the Whitman County Medical Society henceforth refuse to make life insurance examinations for the old-line companies for a fee of less than $5.

ASSUMPTION PARISH (LA.) MEDICAL SOCIETY.

Dr. Adrian A. Landry, secretary of this society, notifies us that at a recent meeting of the society the following resolution was adopted and a copy sent to all insurance agents in the state:

Resolved, That we, the undersigned, members of the Assumption Parish Medical Society and qualified practitioners of said parish, do hereby enter into and bind ourselves to the following agreement, to-wit: That on and after the first day of August, 1906, we will not examine applicants for insurance in the old-line companies for less than five dollars.

AUGUSTIN J. HIMEL.
ADRIAN A. LANDRY.
THOMAS B. PUGH.
H. C. DANSEREAU.
FULTON ROGERS.
H. A. LE BLANC.
A. A. AUCOIN.
W. E. KITTREDGE.
CLIFFORD HIMEL.

MISSISSIPPI COUNTY (ARK.) MEDICAL SOCIETY.

Similar resolutions to the above were passed by this society at the May session. At a meeting held in Osceola, July 17, an amendment was added providing that the members of the society shall collect the fee for examination direct from the insurance company and shall refuse to accept the fee or any portion thereof from the agent.

Correspondence

Trypsin and Amylopsin in Malignant Growths.

8 BARNTON TERRACE, EDINBURGH, SCOTLAND, July 16, 1906.

To the Editor:—An article on "Trypsin in Malignant Growths," by Dr. W. A. Pusey, Chicago, appears in No. 23, vol. xlvi, June 9, page 1763, of THE JOURNAL of the American Medical Association. I should like to say a few words about this matter. The treatment has really only been in use for about six months, and naturally it is still in the experimental phase of its existence. The results recorded by the author can hardly be termed good by any stretch of the imagination, and did I not know of better ones I, as the scientific originator of this treatment, might well despair of it. But in science I do not know the meaning of the word despair. My lips are closed regarding results, but shortly they will be forthcoming, and the unfavorable cases will *not* be in proportion to the favorable ones as seven is to one. As to abscesses, I have known as many as eighty ampoules to be given (in America) to a single patient, with, I think, only one abscess, and altogether I have as yet only heard of about six abscesses all told, excluding the record number mentioned by Dr. Pusey.

Over here we (Dr. Robert Maguire, F.R.C.P., and myself) have, I think, considerably improved this treatment, and in the following I will indicate briefly the lines which, as results go to show, it should follow. For a summary of the scientific reasons for including the diastatic ferment of the pancreas gland, amylopsin, I beg to refer to my letter in the *New York Medical Record*, June 23, 1906, page 1020, under the title, "Trypsin and Amylopsin in Cancer." Messrs. Fairchild Bros. & Foster have now put out two preparations for injection, injectio trypsini and injectio amylopsini. The very good results obtained in certain very serious cases in Europe (to name a few, a case of cancer of the rectum, one of inoperable cancer of the tongue and two of cancer of the uterus) point to the following as on the lines of a right treatment. After a few preliminary injections of small amounts (half an ampoule of the injectio trypsini), the course should be:

1. Injectio trypsini daily up to two ampoules for three or four weeks.

2. Then one ampoule of injectio trypsini on a certain day, followed by an ampoule of injectio amylopsini on the next day, and so on alternately for about four weeks.

3. Lastly, one or even two ampoules of the new injectio amylopsini daily for about four weeks, or longer, in the judgment of the physician.

The injectio amylopsini, therefore, is meant to replace the injectio trypsini in the later periods of the treatment, and also even from the start to meet any bad symptoms, such as nausea, vomiting, pain in the back, drowsiness, albuminuria, high arterial tension, edema, etc. If using this injection any injections be still not well borne, the injection should be further diluted and given more frequently, but so that the total daily amount is not thereby diminished. It is easy enough to kill every cell of a cancer with injections of trypsin, but for its removal and to prevent the formation of poisonous products from its degeneration injections of the diastatic ferment of the pancreas gland, amylopsin, are absolutely necessary.

JOHN BEARD, Sc.D.

Atropin and Strychnin Combined, a Specific for Seasickness.

CHICAGO, Aug. 1, 1906.

To the Editor:—Referring to the letter of Dr. Crane in THE JOURNAL, July 21, on my article with the above title, I desire to acknowledge his courtesy in pointing out an unintentional omission on my part. In a prior paper on the subject, which appeared in THE JOURNAL, March 3, 1904, I gave full credit to Dr. Skinner and would have done so in the article referred to by Dr. Crane had I remembered the name and the publication.

As mentioned in the concluding paragraph of my article, the present report was called forth by an Associated Press dispatch stating that the "Anti-Seasickness League" would

hold a meeting at Lisbon in April that its members might "personally test the medicines which had been advanced as preventives of seasickness." I prepared the paper rather hastily while absent from San Francisco and without having access to my former paper, in order that it might be submitted to the International Medical Congress at its meeting.

While making corrections I desire to draw attention to a grammatical error on the second page of the paper. *Per orem* should be *per os.*

A. C. GIRARD, M.D.

Triplets Living Over Eighty Years.

WRIGHTSVILLE, PA., Aug. 1, 1906.

To the Editor:—In THE JOURNAL, July 28, Dr. John L. Davis, Cincinnati, speaks of triplets alive at the age of 47, and states that so far as he knows this record is unequaled. In this connection I would say that at Manchester, York County, Pa., on Dec. 3, 1903, there died the last of a set of triplets aged 86 years, 10 months and 6 days. The other two died at the ages of 84 and 80, respectively. This remarkable trio was of German ancestry, of the name of Strickler, a common name in this part of the country. David, the brother, was born last and died first. One sister, Lena, the second born, died second, while Mary, the first born, survived the longest. These people lived quietly and peacefully in the country engaged in agricultural pursuits, which probably added to their longevity. In this case triplets survived to the eightieth year and over. If any reader of THE JOURNAL can report anything equaling or exceeding this it will make interesting reading.

B. A. HOOVER, M.D.

Qualifications and Reciprocity as Viewed by the Illinois Board.

[EDITOR'S NOTE: Dr. James A. Egan, Springfield, calls attention to a typographical error in his letter, which was published in THE JOURNAL, August 4. On page 374, line 17, for 1880 read 1899. Nine lines below the same error is repeated. —ED.]

DETROIT, Aug. 4, 1906.

To the Editor:—When I referred to the "disturbed periods" of my worthy brother Egan of Illinois, in my communication to THE JOURNAL, published July 21, I did not anticipate in the least that your readers would be furnished with so complete a demonstration of the affliction so mildly suggested by me. I am truly sorry, not for myself, as I am immune, but for those of your readers who do not enjoy personalities and recriminations.

In my letter I criticised the action of the Illinois State Board of Health in resigning from the American confederation from the standpoint of the reasons given for such resignation and of its subsequent action in passing regulations and qualifications exactly a counterpart of the qualifications of the confederation objected to, and forming the basis for disagreement.

I also criticised the Illinois board for its usurpation of the functions of the state legislature in granting exemption to a class of practitioners under the excuse of reciprocity when the act of reciprocity is impossible *per se.* I also asked Dr. Egan to formulate some rule by which a physician of national reputation could be defined by executive officers less fortunate in observation qualities than himself.

I merely referred to Qualification 2 of the American confederation with the statement that some fifteen states not only believe in the virtue of this qualification but also had adopted it. In his reply Dr. Egan very cautiously refuses to discuss the material questions and contents himself with a very irrelevant abuse of Qualification 2, the Michigan State Board of Registration in Medicine, and my humble self as secretary of such board.

Now, the Michigan board (and myself as its secretary) was and is entirely immaterial to our controversy. My communication was signed as secretary of the American confederation, in which Dr. Egan's board has membership, and I made no reference in my letter either to Michigan or to the Michigan board. It certainly was within my right to criticise a board in membership, especially so when the reasons given for this board's withdrawal from membership on their face, appeared inconsistent and not in accord with the facts.

As my letter had absolutely no reference to the Illinois or Michigan boards, nor to Dr. Egan or myself as executive officers of such boards, outside of the membership of our respective boards in the confederation, and as Dr. Egan refuses to discuss the questions raised by me on their merits and insists on denouncing the shortcomings of my board and myself, with which your readers at this time are not especially interested, I can only say in a general way, that Dr. Egan's statements regarding my official acts are not based on facts and his conclusions are unwarranted in the light of such facts; I can only ask, in justice to myself and the cause I represent, that your readers review together my letter and Dr. Egan's reply to it. I am content to rest my contentions on such a review.

Dr. Egan fails to see the analogy between the present prerequisite of the confederation, which states that an applicant for reciprocity at the discretion of either board *may* file proof of membership in a recognized medical society, and that such membership *may* be considered in connection with the other evidences of character presented and the Illinois requirement of letters of recommendation with regard to the moral, professional and ethical character of the applicant, from a state, district, county or city medical society in the state from which the applicant comes. He states that he must decline to insult the intelligence of readers of THE JOURNAL by attempting to recognize a material distinction in the above optional requirements.

The trouble with Dr. Egan seems to be that he is unable to distinguish the difference between the "may" and "shall," for he states that the prerequisite makes it incumbent on an applicant to show proof of membership in a medical society, and that a comparison of the two requirements will make the distinction quite apparent. Taking for granted that the prerequisite requirement of membership in a state society was expressed by the word "shall" instead of "may," this would not consistently give a reason for the withdrawal of a board in membership from the fact that it is impossible to formulate a qualification acceptable to all states in membership, and in addition the qualifications of the confederation are advisory, not mandatory.

Dr. Egan's statement that I had expressed an opinion that the prerequisite is unconstitutional is not based on fact. I pronounced the mandatory qualification of membership in a state society, introduced by Dr. McCormack as unconstitutional, but I had no support in this contention from Dr. Egan, who was present. This mandatory qualification was not adopted by the confederation.

Dr. Egan refuses to enlighten me and other executive officers as to the method employed by his board in measuring a physician of national reputation, and also declines to discuss the action of his board in usurping the authority of the legislature and tells me that it is none of my business. I accept his courteous explanation as the only rational method in justification of the action of his board.

In a question as large and intricate as that of reciprocity some degree of consideration must be shown by states, otherwise it would be impossible to accomplish results, and results have been accomplished by the American confederation in an extraordinary degree, over one thousand certificates having already been endorsed through its administration during the past four years.

My valiant and bellicose brother Egan challenges me to meet him and his big brother, the president of his board, at a future unofficial meeting of his personal friends, and to repeat some of the unkind criticisms I have felt it my duty to subscribe to in my former letter, and he states that I have neglected the opportunity of expressing my opinion of his official acts at former meetings at which he was present. Dr. Egan must remember, however, that these meetings were held prior to the date on which he joined the United States Army, Navy

and Marine-Hospital Service through reciprocity, and that previous to this event I had never taken him seriously from a strictly reciprocity point of view. In all other questions we harmonize exactly.

B. D. HARISON, Secretary.

Hay-Fever Treatment by Dunbar's Remedies (Pollantin).

BALTIMORE, Aug. 5, 1906.

To the Editor:—Permit me to endorse Dr. Ingals' report of results with pollantin, published in THE JOURNAL, August 4, page 376. I summarized the literature and claims of hay-fever antitoxin in the *Maryland Medical Journal*, August, 1904. This article was misquoted and exploited in the lay press in favor of the serum. I wrote to Messrs. Fritche & Bros. and told them that my actual experience with the powder was practically a failure and that at an early opportunity I should collect these cases and send them to THE JOURNAL. Other matters more pressing have prevented me. When I saw Dr. Ingals' letter I hastily examined ten histories of those who had conscientiously tried pollantin. Eight were absolutely not improved, one claimed some benefit, and the other said he was free from attacks on some days and not on others.

LEONARD K. HIRSHBERG.

INDIANAPOLIS, Aug. 6, 1906.

To the Editor:—I can heartily agree with all that Dr. Ingals has stated concerning pollantin. A year ago I reported two sets of hay-fever cases, one treated by pollantin and the other by the use of quinin locally in the form of a saturated solution sprayed into the nose and followed by an ointment of the same drug, as recommended by Helmholtz many years ago. My success with the simple quinin preparation was greater than with pollantin. I regard the literature accompanying the preparation very objectionable; it is impossible to prescribe pollantin for the patient without him learning all about the remedy he is using.

JOHN F. BARNHILL.

Marriages

FRANK DONAID BURNS, M.D., Chicago, at Shellsburg, Iowa, July 18.

W. O. MCBRIDE, M.D., Joliet, Ill., to Miss Nannie Francis of Lima, Ohio, June 20.

ANDREW P. CORNWALL, M.D., to ANNA S. MARLIN, M.D., both of Boston, July 22.

ALOYSIUS J. LENNON, M.D., Joliet, Ill., to Miss Rose Finlen of Streator, Ill., June 20.

HAYDON ROCHESTER, M.D., to Miss Mary Thomas, at Rochester, N. Y., July 31.

WALTER WALTON WHITE, M.D., to Miss Lenore Griffith Doyle, both of Baltimore, August 1.

ISAAC CLARK GARY, M.D., Chicago, to Miss Emma C. Bollinger of Kahoka, Mo., August 1.

ROY HAYMAN MCKAY, M.D., Milton, W. Va., to Miss Edna Myna Riley of Cincinnati, May 9.

CHARLES O. NELMS, M.D., Taylorville, Ill., to Miss Cora T. Allen of Rock Island, Ill., July 26.

GEORGE M. KLINE, M.D., Ann Arbor, Mich., to Miss Ethel Fry of Grand Rapids, Mich., June 23.

CHARLES PENN ROBBINS, M.D., to Miss Frances Lyon Sinclair, both of Winona, Minn., July 28.

ALEXANDER H. ROUSS, M.D., Kabletown, W. Va., to Miss Anna M. Stough, at York, Pa., July 26.

FRANCIS G. SWEDENBURG, M.D., Rock Elm, Wis., to Miss Olive Eggleston of Red Wing Minn., July 25.

H. C. MANNING, M.D., Flat Lick, Ky., to Miss Dora Smith of Booneville, Ky., at London, Ky., June 2, 1905.

RALPH H. PARKER, M.D., Storm Lake, Iowa, to Miss Ethel Sawyer Ranney of Koshkonong, Wis., August 2.

SCHUYLER LOTT, M.D., Bellona, N. Y., to Mrs. M. Cornelia Hopkins of Fayette, N. Y., at Seneca Falls, N. Y., July 26.

WILLIAM H. NEUMANN, M.D., Lewiston, Minn., to Miss Bernice Holt of Utica, Minn., at Winona, Minn., July 18.

Deaths

Alexander Hutchins, M.D. New York Medical College, New York City, 1860; surgeon in the United States Navy from 1861 to 1863; from 1876 to 1879 president of the Kings County Medical Society, and in 1883 president of the Medical Society of the State of New York, of which he was a life member, senior consulting surgeon to the Brooklyn Hospital, consulting physician to St. John's, St. Mary's and Long Island College Hospital, instrumental in the foundation of the official journal of the Kings County Medical Society and its reading rooms and library, died at his home in Brooklyn, July 30, after a brief illness, aged 71.

William Partridge Brandegee, M.D. College of Physicians and Surgeons in the City of New York, 1889; instructor in otology, University and Bellevue Hospital Medical College, senior assistant surgeon to the New York Eye and Ear Infirmary, a member of the American Laryngological, Rhinological and Otological Society, New York State Medical Society, Medical Society of New York County, Medical Association of Greater New York, Otological Society of New York, and Bellevue Medical College Society, died suddenly at his home in New York City, July 30, from cerebral hemorrhage, aged 42.

Robert Mills Whitefoot, M.D. University of Georgetown Medical Department, Washington, D. C., 1866, a member of the American Medical Association; a pioneer physician of Bozeman, Mont.; a veteran of the Civil War and after the war a member of the medical corps of the Army; for one term surgeon general of Montana; for three years a member of the State Board of Medical Examiners, and for many years health officer of Bozeman, died at the Bozeman Sanitarium, July 25, from Bright's disease, after a long and severe illness, aged 66.

Josiah Giddings, M.D. Castleton (Vt.) Medical College, 1856; a surgeon during the Civil War, and a member of the Harrison County (Iowa) Medical Society, died recently at his home in Woodbine, Iowa. At a regular meeting of the Harrison County Medical Society held at Missouri Valley Iowa, July 19, resolutions were adopted expressing regret at the death of Dr. Giddings and sympathy with his family.

Alexander Memelsdorf, M.D. University of Würzburg, Germany, 1881; some-time staff surgeon in the German Army, professor of dermatology and venereal diseases in the Illinois Medical College, a member of the American Medical Association; a respected practitioner and a successful teacher, died at his home in Chicago, May 18, from heart disease, after an illness of one year, aged 47.

Louis H. Willard, M.D. Hahnemann Medical College, Philadelphia, 1866, of Pittsburg, Pa., for forty years a member of the staff of the Pittsburg Homeopathic Hospital; a surgeon in the Navy during the Civil War, and at the time of his death president of the State Board of Medical Examiners, died suddenly at his summer home in Beaumaris, Ont., July 30, aged 66.

Edmond Church Ingalls, M.D., Rush Medical College, 1894, but never a practitioner of medicine, formerly a resident of Oak Park, Ill., for many years a sufferer from sciatica, on account of which he had acquired the habit of drug use, which he had repeatedly tried to overcome, died in the Shirley Hotel, Denver, Colo., August 1, from an overdose of cocain, aged 38.

Jessie Maclarin McGregor, M.D. University of Edinburgh, Scotland, a member of the Medical Society of the City and County of Denver, and an instructor and clinical teacher in the departments of pathology and gynecology in Denver and Gross Medical College, Denver, died at her home in Denver, March 22, from cerebrospinal meningitis, after an illness of four days.

Wilbur Alexander, M.D. Medical College of Ohio, Cincinnati, 1893, a specialist on diseases of the eye, ear, nose and throat, oculist of the Toledo, St. Louis and Western railroad; a member of the Clinton County and of the Indiana State Medical Society, died suddenly at his home in Frankfort, Ind., from angina pectoris, July 23, aged 36.

Charles F. Herman, M.D. Long Island College Hospital, Brooklyn, 1898; a member of the American Medical Association and Kings County Medical Society, physician to the Brooklyn Dispensary and Polhemus Memorial Clinic, a resident of Brooklyn, died in Waterbury, Conn., August 2.

Samuel H. Frank, M.D. University of Maryland School of Medicine, Baltimore, 1862, of Baltimore, a specialist on diseases of the eye and ear, president of the Hebrew Hospital and Asylum, died suddenly at Chattolanee Springs, Baltimore County, Md., August 3, from heart disease, aged 65.

John Harris Westerfield, M.D. Southwestern Homeopathic Medical College, Louisville, Ky., 1871; a member of the Pope County (Ark.) Medical Society, and of the American Medical Association, died at his home in Atkins, July 31, from gallstone disease, after an illness of four weeks.

George Peck, M.D. College of Physicians and Surgeons in the City of New York, 1847; commissioned assistant surgeon in the Navy in 1881, and retired as captain and medical director, July 9, 1888, after more than twelve years' sea service, died July 27, at Lake Mohonk, N. J.

John Ellison Best, M.D. Rush Medical College, Chicago, 1870; a member of the American Medical Association, and an esteemed practitioner of Cook County, Ill., died at his home in Arlington Heights, August 1, from myocarditis, after an illness of five weeks, aged 63.

George Chapman, M.D. Rush Medical College, Chicago, 1875; founder of the Zauber Wasser Sanitarium, Hudson, Mich., for more than forty years a resident and once mayor of Hudson, died at his home in that city from kidney disease, July 29, aged 80.

C. M. Drew, M.D. Physio-Medical College of Texas, Dallas, 1903; professor of physiology in his alma mater and president of the state society, was instantly killed by being thrown from his buggy in a runaway accident, July 22, in North Fort Worth, Texas.

Joseph John Elliott, M.D. Trinity Medical College, Toronto, 1896; for three years house surgeon of the Toronto General Hospital, and a promising practitioner of Toronto, died at the General Hospital in that city, July 27, after an operation, aged 31.

Joseph B. Welfe, M.D. University of Virginia Medical Department, Charlottesville, 1853, for more than fifty years a practitioner of Scott County, Va., died at the home of his son in Joplin, Mo., June 20, after an illness of several months.

John T. Gray, M.D. Columbus (Ohio) Medical College, 1878; a member of the Chicago Medical Society, a veteran of the Civil War, died at his home in Chicago, July 10, from cerebral hemorrhage, after an illness of less than an hour, aged 67.

John Morrison, M.D. Rush Medical College, Chicago, 1887; a member of the school board of Houston, Pa., for five years, and at one time its president, died at his home in Houston, June 3, after an illness of several months, aged 57.

Luke H. Cooper, M.D. Royal College of Surgeons Ireland, Dublin, 1848; for many years a practitioner of Bay City, Mich., a veteran of the Civil War, died at his home in Monroe, Mich., July 25, after an illness of two days.

Frederick C. Poehler, M.D. Medical Department of Hamline University, Minn., of Herried, S. Dak., died in St. Barnabas Hospital, Minneapolis, July 22, from typhoid fever, after an illness of two months, aged 26.

Charles Scott McKnight, M.D. College of Physicians and Surgeons in the City of New York, 1877, of New York City, died suddenly at his summer home in Saratoga, from cerebral hemorrhage, June 21, aged 53.

Albert L. King, M.D. Cincinnati College of Medicine and Surgery, 1881; a veteran of the Civil War, died at his home in Youngstown, Ohio, July 28, from cerebral hemorrhage, after an illness of two days, aged 62.

Parke G. Young, M.D. University of Georgetown Medical Department, Washington, D. C., 1872, died at his home in Washington, July 29, from heart disease, after an illness of one week, aged 55.

Reuben C. Dunnington, M.D. Medical College of Indiana, Indianapolis, 1874; fell down stairs at his home in Indianapolis, July 20, and received injuries from which he died twenty minutes later, aged 55.

Comegys Paul, M.D. Department of Medicine of the University of Pennsylvania, Philadelphia, 1869; of Belvidere, N. J., died in a sanitarium near Baltimore, June 28, from cholera morbus, aged 60.

James Clarke, M.D. Faculty of Medicine of Queen's University, Kingston, Ont., 1868, died at his home in Bay City, Mich., from cerebral hemorrhage, July 27, after an illness of five weeks, aged 65.

Samuel Burks Scott, M.D. Jefferson Medical College, Philadelphia, 1853; a widely-known practitioner of Lynchburg, Va., died at his home in that place, June 26, after a protracted illness, aged 74.

Newell M. Johnson, M.D. Department of Medicine of the University of Pennsylvania, Philadelphia, 1881; of Williamsport, Pa., died at the University Hospital, Philadelphia, May 19, aged 44.

William Fletcher Hughey, M.D. Columbus (Ohio) Medical College, 1880; a veteran of the Civil War, died at his home in Yellowbud, Ohio, July 23, after an illness of three months, aged 61.

J. F. Miller, M.D. Starling Medical College, Columbus, Ohio, 1857; for many years a practitioner of Port Jefferson, Ohio, died at his home in Delaware, Ohio, from malignant disease, aged 73.

George H. Macpherson, M.D. Medical Department of Victoria College, Toronto, died at his home in Fowler, Mich., June 8, after an illness of a week, from nervous collapse, aged 46.

Charles Rye, M.D. Medical Department of Arkansas University, Little Rock, 1889; died at his home in London, Ark., June 16, from tuberculosis, after a protracted illness.

Joseph De Vere, M.D. Rush Medical College, Chicago, 1894; died at his home in Chicago, July 29, from cancer of the stomach, after an illness of one year, aged 55.

Harriet A. Woodward, M.D. College of Medicine, Syracuse (N. Y.) University, 1875, died suddenly from heart disease at her home in Round Lake, N. Y., July 25.

J. S. Hamilton, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1898; committed suicide at his office in Joy, Ill., by cutting his throat, July 27, aged 40.

Edward Hartshorn, M.D. Harvard University Medical School, Boston, 1840, died at the home of his son in Berlin, Mass., from senile debility, July 25, aged 88.

Charles McDonald, M.D. New York University, New York, 1858; a Confederate veteran, died suddenly at his home in New York City, February 22, aged 81.

David C. Parris, M.D. Atlanta (Ga.) Medical College, 1882, died at his home in Hillsboro, N. C., July 19, from pneumonia, after an illness of eight days, aged 52.

Charles C. O'Donnell, M.D. (License, California), a practitioner of California since 1860, is reported to have been killed in the earthquake at San Francisco.

C. O. Craig, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1884; died at his home in Galena, Mo., July 25, from cerebral hemorrhage, aged 45.

Thomas Jefferson Grayson, M.D. (County license, Indiana), 1901; died at his home in Vincennes, Ind., July 27, after an illness of several weeks, aged 62.

J. A. R. Jones, M.D. University of Louisville, Medical Department, 1873; died from rheumatism at his home in Ensley, Ala., June 4, after a long illness.

Harry Litchfield, M.D. Hahnemann Medical College, Philadelphia, 1892; a veteran of the Civil War, died at his home in Philadelphia, July 23, aged 63.

John H. Schmidt, M.D. Homeopathic College of Missouri, St. Louis, 1869, died at his home in Quincy, Ill., July 28, after a long illness, aged 83.

R. Fay Livermore, M.D. Cleveland Homeopathic Medical College, 1902; died suddenly in his room in Cleveland, July 27, from heart disease, aged 31.

Noah F. Jackson, M.D. Eclectic Medical Institute, Cincinnati, 1899, of Kincaid, Kan., is reported to have been shot and killed in Kincaid, July 19.

John T. Mitchell, M.D. Jefferson Medical College, Philadelphia, 1858; died at his home in Clarksville, Ark., July 31, from senile debility, aged 72.

Andrew J. Miller, M.D. Rush Medical College, Chicago, 1869; died at his home in Halstead Kan., July 22, after a protracted illness, aged 75.

James Willard, M.D. University of Maryland School of Medicine, Baltimore, 1843, died at Lovittsville, Va., July 30, aged about 90.

Wallace Cleveland Clark, M.D. New York University, New York City, 1882, died in New York City, May 19.

Charles W. Long, M.D. (examination, Kansas), of Neodesha, Kan., died in Kansas City, Mo., February 22.

Medical Organization

Arkansas.

POLK COUNTY MEDICAL SOCIETY.—At a meeting of the physicians of Polk County, held in Mena, a medical society was organized on the standard plan and the following officers were elected: President, Dr. William P. Parkes; vice-president, Dr. Philip R. Watkins; secretary, Dr. Columbus C. Gunnells; treasurer, Dr. Gonzalez P. Dunman; delegate to the state society, Dr. D. O. Holmes; alternate, Dr. Columbus O. Gunnells; and censors, Drs. Philip R. Watkins, Charles Cockran and D. O. Holmes, all of Mena.

California.

STANISLAUS COUNTY MEDICAL SOCIETY.—At a meeting of the physicians of the county, held in Modesto, a county medical society was formed, to be affiliated with the state and national organizations.

TULARE COUNTY MEDICAL SOCIETY.—A county medical society was organized recently and elected the following officers: President, Dr. William W. Cross, Jr., Visalia; vice-president, Dr. John B. Rosson, Tulare; and secretary, Dr. Mark L. Pettit, Visalia.

Connecticut.

NORTHERN CONNECTICUT MEDICAL SOCIETY.—At a meeting held recently in Thompsonville an organization was formed with the following officers: President, Dr. Edward F. Parsons, Thompsonville; vice-presidents, Drs. Joseph A. Coogan, Windsor Locks, Howard O. Allen, Broad Brook; Thomas G. Alcorn, Thompsonville, and A. Proctor Sherwin, Jr., Suffield; secretary, Dr. Myron P. Robinson, Windsor Locks; and treasurer, Dr. John L. Bridge, Thompsonville.

Georgia.

LAURENS COUNTY MEDICAL SOCIETY.—The physicians of Laurens County met at Dublin, June 27, and organized a medical society on the standard plan, with the following officers: President, Dr. J. L. Wedington; vice-president, Dr. Robert H. Stanley, and secretary and treasurer, Dr. William R. Brigham, all of Dublin.

MADISON COUNTY MEDICAL SOCIETY.—The physicians of the county met at Danielsville and organized, electing the following officers: President, Dr. G. W. Westbrook, Ila; vice-president, Dr. Asa L. Payne, Fort Lamar; secretary and treasurer, Dr. A. J. Griffith, Comer; and censors, Drs. James S. Daniels, Danielsville, A. J. Griffith, Comer, and Dr. W. D. Gholston, Danielsville.

BERRIEN COUNTY MEDICAL SOCIETY.—The physicians of Berrien County met at Nashville and organized a county society as a branch of the state medical society, with the following officers: President, Dr. Robert C. Woodard, Adel; vice-president, Dr. Pleasant H. Askew, Nashville; secretary and treasurer, Dr. F. P. Key, Nashville; and censors, Drs. L. A. Carter and J. A. Ward, Nashville, and Dr. William A. Moore, Allapaha.

CHEROKEE COUNTY MEDICAL SOCIETY.—The physicians of the county, at a meeting held in Cherokee, have organized a county society on the standard plan, with the following officers: Dr. John M. Turk, Canton, president; Dr. M. G. Hendrix, Ball Ground, vice-president; Dr. Jack M. Bates, Canton, secretary and treasurer; and Drs. George D. Blackwell, Canton, Tarpley W. West, Ball Ground, and W. Howard Perkinson, Woodstock, censors.

JEFFERSON COUNTY MEDICAL SOCIETY.—Dr. W. W. Pilcher, Warrenton, councilor for the tenth district, met with the physicians of Jefferson County at Louisville and organized a county society on the standard plan, with the following officers: President, Dr. James W. Pilcher, Stellaville; vice-president, Dr. C. H. Raley, Wrens; secretary and treasurer, Dr. C. G. Todd, Wrens; and censors, Drs. C. W. Kitchen (Avera), Raley and Thomas.

SOUTH FULTON, CAMPBELL AND CLAYTON COUNTIES MEDICAL SOCIETY.—At a meeting of the physicians of South Fulton, Campbell and Clayton Counties, held in College Park for the purpose of organizing a medical society, Dr. E. W. Hawkins, College Park, was elected temporary chairman and Dr. J. F. Henley, College Park, temporary secretary. A permanent organization was then effected with the following officers: Dr. Charles M. Curtis, College Park, president; Dr. C. Thomas Cannon, Jonesboro, and Dr. John T. Longino, Fairburn, vice-presidents; Dr. J. J. Foster, treasurer; Dr. John H. Dennard, East Point, secretary; and Drs. J. T. Henley, College Park, Floyd, and Solon B. Cousins, Jonesboro, censors.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

SWELLING OF THE KNEE.

WENTWORTH, S. D., July 18, 1906.

To the Editor:—Can you help me in a case of traumatic injury of the knee in a fleshy woman? The nature of the injury is that of a sprain. After about two weeks the leg began to swell, particularly from knee to foot. It is now about seven weeks and the swelling still continues. Otherwise the woman is perfectly healthy. Why does this swelling take place, and what was the proper treatment for it, and also method of handling sprain? L. B. P.

ANSWER.—This question is so indefinite that it is impossible to give a satisfactory answer. If the leg was in a cast, swelling for a time after the removal of the cast is the rule. If there is an effusion in the joint as a result of the injury some swelling below might be expected, particularly in fleshy people, in whom the circulation is poor, so that injuries are more liable to be followed by an edematous swelling, which is slow to disappear. The proper treatment for a sprain is rest with immobilization until the acute symptoms are over, followed by deep massage, passive and active motion, hydrotheraphy, etc.

IODIZED SULPHUR.

CAL., July 31, 1906.

To the Editor:—In the *London Practitioner*, July, 1906, page 122, there is recommended for gaseous fermentation "iodized sulphur, first obtained by Prunier, which contains a large amount of sulphur with a small quantity of iodin." Will you be kind enough to inform me through the pages of THE JOURNAL if this is the sulphur iodid of the Pharmacopeia, and, if not, wherein it differs?
C. S. P.

ANSWER.—The official sulphur iodid, sulphuric iodidum, U. S. P., is obtained by heating to fusion a mixture of 20 parts sulphur with 80 parts of iodin. S. Prunier (*Jour. de Pharm*, (6) IX, No. 9 from Proc. Amer. Phar. Assoc., vol. xlviii, page 689) directs "iodized sulphur" to be made by melting together equal parts of iodin and sulphur.

THE INJECTION TREATMENT OF HERNIA.

HARRINGTON, DEL., July 30, 1906.

To the Editor:—Will you please inform me, if possible, where I can get some practical lessons on the treatment of hernia by the hypodermic needle? It is very successfully done here by the ——— Hernia Cure, and I am often called on to treat cases in that way.
T.

ANSWER.—The injection treatment of hernia was first proposed and used by the regular profession, but it was soon found to be not only unsuccessful in so far as curing the rupture is concerned, but also a blind and unscientific method of treatment. After it was abandoned by the regular profession, it was taken up by the quacks and charlatans, who, as a rule, are unqualified to operate, and who, by advertising to cure hernia without the use of the knife and without laying the patient up, are able to do a flourishing business. The method consists in injecting by means of a hypodermic syringe and a long needle, some irritating fluid into and about the hernial ring with the intention of producing sufficient hyperplasia of the connective tissue to plug up the opening, or to so constrict it as to prevent the descent of the hernial contents. The fluid injected varies in composition and each one is supposed to have a particular fluid which is better than that of any one else. They are all, however, of a similar nature and contain either extract of white oak bark, tannic acid, carbolic acid, sulphate or chlorid of zinc, etc., to which morphia or other anodyne is frequently added to diminish the pain caused by the injection. Some use simply alcohol. The most recent method consists in injecting paraffin, with a melting point a little above the temperature of the body, into and about the ring in the hope that the masses of paraffin, which are practically insoluble in the tissues, will act as a mechanical plug to the opening and thus prevent the descent of the hernia. The great trouble with all injection methods is that, as a rule, they do not effect a permanent cure. Besides the apparent simplicity of the method, another feature that is enticing to many patients is the fact that many charlatans advertise "no pay until cured." They take the patient's note payable when cured. Sufficient exudate can be produced in many cases to retain the hernia long enough to make the patient believe he is cured, and the note is paid. In a few weeks or months, the exudate is absorbed or yields

so that the rupture returns, since the unclosed sac remains. Every surgeon of experience is constantly meeting cases for operation that have been unsuccessfully treated by the injection method. Surgeons are meeting cases treated by the paraffin method in which the hard masses of paraffin not only do not retain the rupture, but caused so much pain by pressure on surrounding nerves that the patients seek operation for their removal in order to get relief from the pain. Nor is the paraffin method entirely safe, as numerous cases of emboli of the lungs following the injections have been reported with serious and even fatal results; in more than one case there has been permanent loss of sight produced by an embolus of the central artery of the retina.

TRYPSIN TREATMENT OF CANCER.

WASECA, MINN., July 31, 1906.

To the Editor:—Can you give me any information about the methods used by Dr. Beard in the trypsin treatment of cancer? I am anxious to begin treatment on a case at once.

F. A. SMARTWOOD.

ANSWER.—When we answered a similar question in this department last week (see page 379), we lost sight of the fact that trypsin is on the market in this country. On receipt of the letter from Dr. Beard, which appears in our Correspondence department this week, we wrote to Fairchild Brothers & Foster, New York City, asking them about the preparation which they market. They have sent price list and circulars, and from these we learn that Injectio trypsini comes in boxes of a dozen tubes, at $1.25 per box. Lotio pancreatis is sold in two-ounce bottles at 67 cents each. The latter preparation is a surgical solvent to be diluted with about two volumes of distilled water and applied freely by a wet compress once or twice a day. The trypsin injection has been used in various strengths and quantities and an exact dosage has not yet been established. It is recommended, however, that at the outset, about five minims, diluted with two volumes of sterilized, distilled water, be injected every other day and gradually increased to 10 minims and then to 20 minims. Further particulars will be found in the circular which the manufacturers will send on request. In their advertising, they emphasize the fact that they reserve decision as to the value of this treatment. They say that the advertisement published in THE JOURNAL, Feb. 17, 1906, advertising page 9, is the only public announcement they have ever made on the subject, as they simply desired to have the medical profession know that they were in a position to supply those who desired to try the trypsin treatment. In other words, they have endeavored to confine their attention to the perfection of the preparation and have not allowed consideration of the importance of the matter to lead them to make announcements that would not be fully justified by the outcome. Although we may have no confidence in the treatment, as we stated last week, because Dr. Beard's own announcements do not warrant such belief, nevertheless h's insistence that it is valuable, coupled with his position (lecturer on comparative embryology at the University of Edinburgh), compel us to do what we can to aid those who desire to put the treatment to a test.

RECIPROCITY WITH ILLINOIS.

HURON, S. D., July 29, 1906.

To the Editor:—(a) What states have reciprocity with Illinois? (b) In what states can one practice after successfully passing the State Board of Illinois?

FRIEDR VAN DALSEM.

ANSWER.—(a) Illinois reciprocates—in the case of licenses issued after examination—with the following states: Indiana (after Jan 1, 1905), Iowa, Kansas, Maine, Maryland, Michigan, Minnesota, Nebraska, New Jersey, North Dakota (after July 1, 1905), Ohio, South Carolina, Vermont, Wisconsin and Wyoming. (b) With any of the states mentioned, but registration must first be accomplished.

Association News

New Members.

List of new members of the American Medical Association for the month of July, 1906:

ALABAMA.

Carpenter, N. H., Jasper.
Creamer, J. D., Hanceville.
Gordon, F. E., Anniston.
Grimes, J. W., Talladega Springs.
Hardin, E. R., Birmingham.
Pow, J. R., Maylene.

ARIZONA.

Adams, John, Flagstaff.
Drane, J. E., Jr., Mesa.

ARKANSAS.

Hinson, T. B., Bono.
Hughes, J. C., Walnut Ridge.
Hughes, W. E., Pocahontas.
Martin, J. S., Morrilton.
Simmons, J. A., Hensley.

CALIFORNIA.

Armistead, C. M., San Francisco.
Lewis, G. E., San Francisco.
Gibbons, M. R., San Francisco.
McChesney, G. J., San Francisco.
McNutt, Wm. F., Jr., San Francisco.
Merritt, Emma S., San Francisco.
Sawyer, W. B., Riverside.
Willits, Emma K., San Francisco.

COLORADO.

Brown, L. G., Colorado Springs.
Burgess, L. MacD., Delta.
Gillett, O. R., Colorado Springs.
Johnstone, O. P., Boulder.
Morris, R. E., Cripple Creek.

CONNECTICUT.

Coogan, Jos. A., Windsor Lock.
Farrell, J. E., Waterbury.
Lyman, D. R., Wallingford.
Terry, E. F., Putnam.
Shannon, J. B., Danielson.

DELAWARE.

Beck, C. A., Wilmington.
Chandler, J. H., Wilmington.
Conwell, L. S., Camden.
Spruance, H. R., Wilmington.

DISTRICT OF COLUMBIA.

Barber, J. M., Washington.

FLORIDA.

Macauley, George, Mayport.

GEORGIA.

Atkinson, J. P., Milledgeville.
Graves, J. R., Zebulon.
Peniston, Paul, Newman.

ILLINOIS.

Amerson, G. C., Chicago.
Barnes, H. T., Maywood.
Brown, A. L., Vienna.
Buckley, J. E., Chicago.
Burnside, L. A., Martinsville.
Camerer, J. D., Kinmundy.
Carpenter, F. E., Chicago.
Catlin, S. R., Rockford.
David, F. E., Chicago.
Diamond, P. T., Chicago.
Eakin, A. C., Shirland.
Egan, J. C., Chicago.
Engels, N. R., Chicago.
Ferguson, Clara, Chicago.
Foelsch, A. J., Bondville.
Fox, C. M., Chicago.
Freeman, H. E., Dillington.
French, W. M., Chicago.
Fults, J. C., Waterloo.
Gleeson, Benj., Danville.
Hammond, J., Chicago.
Hecox, C. R., Golden.
Hubert, J. F., Chicago.
Hyde, D. L., Chicago.
Jefferson, F. A., Chicago.
Lyness, J. D., Savannah.
McDavid, J. T., Decatur.
Nickerson, L. H. A., Quincy.
Orcutt, D. C., Chicago.
Ostrom, Louis, Rock Island.
Patterson, H. A., Joliet.
Selby, F. S., Chicago.
Smith, S. A., Annapolis.
Stookey, V. P., Colchester.
Tarr, A. W., Grand Chain.
Thomas, H. B., Chicago.
Waggoner, E. L., Lebanon.
Weber, F. J., Olney.
Williams, H. O., Belknap.

INDIANA.

Blount, R. D., Valparaiso.
Combs, C. N., Terre Haute.
Cravens, W. R., Bloomfield.
Cromer, Mary O., Union City.
Dierking, A. W., Oolitic.
Good, A. H., Selma.
Gray, J. W., Bloomfield.
Jones, Oscar, Jolietville.
Loring, C. J., Rochester.
Mattox, E. L., Terre Haute.
Owens, O. W., Muncie.
Reavis, W. J., Evansville.
Rhamy, B. W., Ft. Wayne.
Ried, S. M., Muncie.
Taylor, C. H., South Bend.
Williamson, Harry, Marion.
Wilson, James, Wabash.

INDIAN TERRITORY.

Lyford, H. O., Sapulpa.
Spangler, A. S., Phillips.

IOWA.

Abegg, H. H., Dougherty.
Cole, F. M., Battle Creek.
Conaway, J. W., Hartley.
Garth, J. W., Clarion.
Ghrist, D. M., Ames.
Heetland, L. H., Sibley.
Hull, J. A., Ottumwa.
Hyde, Oliver, Des Moines.
Peo, Evalene, Boone.
Rockafellow, J. C., Des Moines.
Shevers, C. L., Calumet.
Smillie, B. A., Palmer.
Traverse, I. W., Ft. Madison.
Wright, J. C., Clear Lake.

KANSAS.

Carmichael, F. A., Goodland.
Darrah, P. W., Leavenworth.
Eshom, Josaphyne R., Topeka.
Harner, M. W., Clay Center.
Moses, H. N., Salina.
Schenck, F. E., Burlingame.
Steele, Samuel, Chanute.
Stivers, C. C., Horton.

KENTUCKY.

Bass, W. J., Paducah.
Daughtrey, W. T., Marion.
Dixon, J. O., Marion.
Forwood, W. S., Henderson.
Hodges, W. J., Pineville.
Kahn, Lee, Louisville.
Logan, V. G., Jamestown.
McCarty, J. And., Louisville.
McKenney, A. A., Falmouth.
Raw, Ernest, Bowling Green.
Ridgway, S. H., Sheperdsville.
Sams, J. W., E. Bernstadt.
Schulte, B. O., Louisville.
Spears, L. P., Louisville.

LOUISIANA.

Lewis, J. L., New Orleans.

MAINE.

Ames, J. D., Norridgewock.
Bragg, J. S., Bangor.
Hull, J. C., Rockland.
Kendall, C. F., Biddeford.
Robinson, W. W., Portland.

MARYLAND.

Hepburn, S. S., Annapolis.
Novak, Emil, Baltimore.
Stone, W. C., Ellicott City.

MASSACHUSETTS.

Brady, J. F., Boston.
Brooks, H. E., Gloucester.
Butterfield, G. K., Taunton.
Cummings, M. A., Winchester.
Gardner, H. M., Cambridge.
Greene, D. C., Jr., Boston.
McCormack, A. H., Northampton.
Mendelsohn, Louis, Dorchester.
Paine, A. E., Brockton.
Parker, W. H., Boston.
Reed, W. G., Southbridge.
Turner, W. G., Fall River.
Whittemore, Wyman, Boston.

MICHIGAN.

Andries, J. H., Detroit.
Chase, W. D., Kalamazoo.
Clippert, J. C., Detroit.
Colver, R. N., Battle Creek.
Dean, R. G., So. Lyon.
Doty, A. G., Hillsdale.
Estabrook, R. B., Detroit.
Fenton, D. W., Reading.
Groff, C. F., Detroit.
Hockstein, Adolph, Kalamazoo.
Joy, L. S., Marshall.
Layton, C. S., Blaney.
McCann, J. J., Ionia.
Reid, George, Reese.
Sackett, C. S., Charlotte.
Stockwell, G. W., Detroit.
Williamson, Hedley, Detroit.
Wilson, Wm., Coldwater.

MINNESOTA.

Brand, W. A., Redwood Falls.
Branton, R. J., Atwater.
Carpenter, G. R., Porter.
Coon, W. F., Elysian.
Frazier, G. W., Detroit.
Gray, G. W., Brownsdale.
Huxley, F. R., Faribault.
Murdock, A. J., Minneapolis.
Onsgard, C. K., Rushford.
Rihlen, De Costa, Caledonia.
Rodgers, E. H. W., Austin.
Sweitzer, S. E., Minneapolis.
Watson, N. M., Red Lake Falls.

MISSISSIPPI.

Baskervill, George, Winona.
Cooper, J. A., Friar Point.

Gilbert, J., Shaw.
Green, C. L., Utica.
Greene, J. H., Guntown.
McAuley, A. H., Marianna.
Nimocks, R. F., Poplarville.
Wicklilfe, T. F., Wayside.

MISSOURI.

Baumgarten, Walter, St. Louis.
Collasowitz, Albrecht, St. Louis.
Cook, Jerome E., St. Louis.
Dixon, C. H., St. Louis.
Edelen, B. H., Gorin.
Eyermann, E. H., St. Louis.
Farber, M. J., St. Joseph.
Fischel, Walter, St. Louis.
Hope, D. H., Cape Girardeau.
Howle, W. P., Charleston.
Hunterson, D. J., Parnell.
Jungk, C. G. W., St. Louis.
Martin, W. H., Kahoka.
McCrea, Maggie L., Kansas City.
Rowe, A. R., St. Louis.
Schmidt, W. C., St. Louis.
Thornburgh, A. H., West Plains.
Vinyard, G. W., Jackson.
Woods, S. E., Jackson.

MONTANA.

Kellogg, K. H., Stevensville.

NEBRASKA.

Bamford, S. E., Hastings.
Boiling, W. A., Omaha.
Foss, J. H., Crete.
Kohout, J. A., Omaha.
McGrath, B. R., Grand Island.
McKirahan, J. Ralph, Minden.
Plumb, J. N., York.
Straight, J. W., Hastings.
Weiss, Johannes, Grand Island.

NEW HAMPSHIRE.

Crosby, W. T., Manchester.
Dolloff, C. H. Concord.

NEW JERSEY.

Collier, W. S., Trenton.
Epstein, H. B., Newark.
Van Dyke, B. S., East Orange.

NEW YORK.

Anderson, L. N., Brooklyn.
Beyes, Samuel, New Rochelle.
Buchanan, Archibald, Troy.
Carr, E. W., Lyons.
Castelli, Enrico, New York.
Cornell, I. M., Wappingers Falls.
Daniel, Annie S., New York.
Pilkins, R. L., Albany.
Foland, J. P., New York.
Fowler, H. S., Brooklyn.
Frank, R. T., New York.
Gassam, E. Van D., Utica.
Gregory, W. E., Dansville.
Hamilton, B. W., New York.
Hogan, Austin, Johnstown.
Houghton, R. A., New York.
Jacobson, Sidney D., New York.
Jones, F. A., Rochester.
Kelley, C. D., Mt. Vernon.
Kenefick, J. A., New York.
Kidder, W. H., Oswego.
Klause, A. C., Norwood.
Kouwenhoven, J. B., Yonkers.
Le Comte, J. R., New York.
Marlow, F. W., Syracuse.
May, C. E., New York.
McNutt, Sarah J., New York.
Montmarquet, J. D., Cohoes.
Murphy, J. E., New York.
Nelman, L. A., Brooklyn.
Osmun, W. W., Syracuse.
Palmer, J. O., New York.
Parker, F. H., Auburn.
Quirk, J. M., Montour Falls.
Rae, Alexander, Brooklyn.
Reed, A. P., Geneseo.
Rieger, Joseph, Dunkirk.
Simrell, G. W., Brooklyn.
Souler, E. M., Albion.
Stanton, Wm., Webster.
Stillwell, J. E., New York.
Tierney, W. J., New York.
Walrad, C. B., Johnstown.

NORTH CAROLINA.

Bell, A. E., Mooresville.
Johnson, Alice E., Southern Pines.
Phifer, E. W., Morgantown.
Sharpe, F. L., Statesville.
Tyson, T. D., Mebane.

NORTH DAKOTA.

Johns, J. G., Bowdon.

OHIO.

Bacharach, F., Cincinnati.
Barrett, S. B., Byers.
Bushnell, W. S., Mansfield.
Caldwell, J. S., Cincinnati.
Coe, O. P., Cincinnati.
Cole, A. T., Millersburg.
Culbertson, E. C., Caldwell.
Donaldson, J. B., Lorain.
Dye, E. A., Vienna Cross Roads.
Eichberg, J. H., Cincinnati.
Evans, C. E., Newark.
Flenner, Merle, Hamilton.
Fry, Melvin, Arcanum.
Garber, J. M., Plymouth.
Gohn, G. D., Dayton.
Goodhue, N. D., Dayton.
Graft, J. A., Hamilton.
Hamblin, I. B., Columbus.
Henry, A. S., Cleveland.
Hindley, M. L., Monroeville.
Hutchings, S. R., Springfield.
Iutzi, Leon, Hamilton.
Jump, C. F., Toledo.
Long, J. W., Bryan.
Maddox, R. D., Cincinnati.
McElhany, R. B., Youngstown.
Miller, J. W., Cincinnati.
Miller, R. W., Hemlock.
Preston, H. B., Toledo.
Rowland, G. O., E. Palestine.
Scott, A. C., Cleveland.
Smith, Warren, Columbus.
Wakefield, E. F., Chagrin Falls.
Wehr, C. J., Cleveland.
Wilkins, A. M., Delta.
Wise, R. C., Millersburg.
Woodburn, H. I., Cincinnati.

OKLAHOMA.

Gray, E. J., Tecumseh.
Wallace, G. H., Hamburg.

PENNSYLVANIA.

Achison, H. M., Washington.
Bushey, F. A., Greencastle.
Gaskein, R. J., Philadelphia.
Haines, D. M., Allenport.
Kelly, J. A., Philadelphia.
Klein, W. F., Lebanon.
Krickbaum, W. H., Danville.
Leiser, Wm., Jr., Lewisburg.
Limbaugh, H. W., New Cumberland.
Lutz, J. F., Glen Rock.
Martin, W. D., Dunns Station.
Mervine, G. D., Bitumen.
Mudie, Wm., Pittsburg.
Murrin, C. E., Scranton.
Patten, R. S., Danville.
Scattergood, Joseph, W., Chester.
Stewart, A. B., Philadelphia.
Trockmorton, C. B., Canonsburg.
Warlow, Margaret A., Philadelphia.

RHODE ISLAND.

Barnes, H. L., Wallum Lake.

SOUTH CAROLINA.

Ball, J. A., Charleston.
Black, H. R., Spartanburg.
Gilliland, R. J., Easley.

SOUTH DAKOTA.

Roane, James, Yankton.

TENNESSEE.

Jones, Kennedy, Memphis.
Maddin, J. W. Jr., Nashville.
Zemp, E. R., Knoxville.

TEXAS.

Baldwin, J. E., Dallas.
Bartlett, Glenn, Shafter.
Biggs, W. D., Lometa.
Bledsoe, R. B., Lufkin.
Chilton, P. H., Comanche.
Combe, F. J., Brownsville.
Combe, J. K., Brownsville.
Crowder, T. W., Sherman.
Curry, H. F., Reagan.
Denham, W. S., Livingston.
Everitt, W. D., Livingston.
Fletcher, J. K., Hondo.
Foster, J. H., Houston.
Gilliam, J. R., Mart.
Houston, E. F., Corsicana.
Kyle, J. A., Houston.
Mathers, W. R., Prosper.
McLeary, S. B., Weimar.
Milburn, C. L., San Antonio.
Pollok, L. W., Temple.
Searcy, C. A., Hempstead.
West, H. A., Ouanah.
Wickline, R. M., Austin.

VERMONT.

Read, Fayette E., Salisbury.

VIRGINIA.

Gochnauer, Fred, Upperville.
McGill, E. L., Petersburg.

WASHINGTON.

James, R. J., Seattle.
Kennedy, T. S., Ilwaco.
Marshall, H. P., Pullman.
Power, Henry, Spokane.
Sturgis, M. G., Seattle.
Sutton, E. O., Tacoma

WEST VIRGINIA.

Bond, X. E., Salem.
Bruns, W. P., Ceredo.
Burwell, W. N., Parkersburg.
Gates, M. A., Ronceverte.
Hamilton, M. F., Mannington.
South, Genevieve, Parkersburg.

WISCONSIN.

Armstrong, C. E., Oconto.
Butzke, E. J., Jackson.
Fenger, J. S., Luck.
Foat, J. S., Ripon.
Freligh, C. N., Plum City.
Radloff, A. C., Eden.
Russell, Rose A., Neenah.
Tompach, E. L., Racine.

WYOMING.

Gray, E. W., Rawlins.
Swisher, T. J., Rawlins.

PHILIPPINE ISLANDS.

Card, W. S., Manila.
Soli, C. H. Catbalgan, Samar.

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending Aug. 4, 1906:

Connor, C. H., asst.-surgeon, left Fort Stevens, Oregon, en route to Camp of Instruction, American Lake, Washington, for duty.

Russell, F. F., arrived at Benicia Barracks, Cal., for duty with Signal Corps, Camp of Instruction, American Lake, Wash.

Hess, Louis T., asst.-surgeon, reports arrival at Vancouver Barracks, Wash., for duty with troops to Camp of Instruction, American Lake, Wash.

Wilson, James S., and Clark, John A., asst.-surgeons, report arrival at Camp of Instruction, Chickamauga, Georgia.

Skinner, George A., asst.-surgeon, left Fort William Henry Harrison, Mont., en route to Camp of Instruction, American Lake, Wash., for duty.

Robbins, C. P., asst.-surgeon, reports arrival at Camp of Instruction, Camp Roosevelt, Mount Gretna, Pa., for duty.

Rich, E. W., asst.-surgeon, reports arrival at Camp of Instruction, Camp Roosevelt, Mount Gretna, Pa., for duty.

Maus, Louis M., deputy surgeon general, reports for duty as chief surgeon, Camp of Instruction, near Austin, Texas.

Wales, Philip G., surgeon, and Wolfe, E. P., Shockley, M. A. W., and Hansell, H. S., asst.-surgeons, arrived at San Francisco, from duty in Philippines Division.

Jones, Percy L., asst.-surgeon, reports arrival at Camp Roosevelt, Mt. Gretna, Pa., for duty.

Stephenson, William, surgeon, left Presidio, San Francisco, en route to Camp of Instruction, American Lake, Wash., for duty.

Duncan, Louis C., asst.-surgeon, reports arrival at Camp of Instruction, Fort Benjamin Harrison, Ind.

Pinkston, Omar W., asst.-surgeon, order assigning him to temporary duty in the Department of California amended so as to direct him to proceed to Camp of Instruction, Fort Riley, Kansas, on relief from temporary duty at U. S. Military Prison, Fort Leavenworth, Kans.

Lynch, Charles, surgeon, general staff, detailed to attend encampment of the Ohio National Guard near the villages of Strasburg and Bolivar, Ohio, Oct. 13 to 20, 1906.

Bosley, John R., asst.-surgeon, left Fort Egbert with Companies G and H, 3d Infantry, en route to Skagway, Alaska.

Phalen, James M., asst.-surgeon, reports arrival at Camp of Instruction, near Austin, Texas.

Wolfe, Edwin P., asst.-surgeon, having reported arrival at San Francisco, will proceed to Fort Hancock, N. J., for duty at that station.

Hartnett, Eugene H., asst.-surgeon, relieved from duty at Fort Hancock, N. J., and ordered to duty in the Philippine Islands.

Shockley, M. A. W., asst.-surgeon, having reported arrival at San Francisco, will proceed to Fort Wright, Wash., for duty at that station.

Hansell, Haywood S., asst.-surgeon, having reported arrival at San Francisco, will proceed to the Presidio, San Francisco, for duty at that station.

Rand, Irving W., asst.-surgeon, relieved from duty at the Presidio, San Francisco, and ordered to the Philippines for duty.

Shockley, M. A. W., asst.-surgeon, granted 30 days' leave of absence.

Rockhill, E. P., asst.-surgeon, granted leave of absence for 30 days.

Mason, Charles F., surgeon, leave of absence extended 15 days.

Shook, Jay R., asst.-surgeon, left Fort Des Moines, Iowa, en route to Camp of Instruction, Fort Riley, Kansas.

Baker, David, asst.-surgeon, reports for duty at Fort Bliss, Texas.

Stone, John H., asst.-surgeon, left Key West Barracks, Fla., en route to Camp of Instruction, Chickamauga, Ga.

Marvin, Marion F., contract surgeon, returned to Fort Mansfield, R. I., for duty at Fort H. G. Wright, N. Y.

Stone, Frank P., dental surgeon, left Fort Sam Houston, Texas, for duty at Camp Mabry, Austin, Texas.

Long, Charles J., dental surgeon, left Fort Keogh, Mont., and arrived at Fort Lincoln, N. Dak., for duty.

Werter-Baker, Clark L., contract surgeon, left Madison Barracks, N. Y., on leave of absence for 10 days.

Reagles, James, contract surgeon, left Fort Keogh, Mont., for temporary duty at Fort Assininiboine, Mont.

Harris, Herbert L., contract surgeon, relieved from further duty in the Philippines Division and ordered to duty at Fort Snelling, Minn., at the expiration of his present leave of absence.

Stuckey, Harrison W., contract surgeon, relieved from duty at Fort Snelling, Minn., and ordered to Philippine service.

Johnson, Charles W., contract surgeon, ordered to Fort Des Moines, Iowa, for duty.

Davis, Oscar F., contract surgeon, relieved from duty at Fort Des Moines, Iowa, and ordered to Philippine service.

Hammond, William G., dental surgeon, ordered to Fort Logan, Colo., for duty.

Ware, William H., dental surgeon, relieved from duty at Fort Logan, Colo., and ordered to Philippine service.

Brown, Wilmot E., contract surgeon, ordered from Fort Walla Walla, Washington, to Fort Stevens, Oregon, for temporary duty.

Davis, Oscar F., contract surgeon, returned to Fort Des Moines, Iowa, from field duty near Fort D. A. Russell.

Navy Changes.

Changes in the Medical Corps, U. S. Navy, for the week ending July 28, 1906:

Moore, J. M., surgeon, orders to *Columbia* revoked; wait orders.
Von Weckind, L. L., surgeon, to *Alabama*.
De Valin, C. M., surgeon, detached *Alabama*; to *Washington*.
Brown, H. L., asst.-surgeon, to the Navy Yard, Washington, D. C.
Hoen, W. S., asst.-surgeon, to *Philadelphia* and additional duty Navy Yard, Puget Sound, Wash.
Brister, J. M., P. A. surgeon, detached *Philadelphia*, Navy Yard, Puget Sound, Wash.; to the *Pennsylvania*.
Payne, J. H., Jr., P. A. surgeon, to the *Arkansas*.
Wright, B. L., P. A. surgeon, detached *Arkansas*; to *Columbia*.
Butler, C. S., P. A. surgeon, detached *Columbia* and wait orders to Naval Station, San Juan, P. R.
De Bruler, J. P., asst.-surgeon, to the Navy Yard, Washington, D. C.
Verner, W. W., asst.-surgeon, to Navy Recruiting Station, Pittsburg, Pa.
Baker, M. C., acting asst.-surgeon, appointed an acting asst.-surgeon in the Navy from July 23, 1906.
Geiger, A. J., P. A. surgeon, detached *Brooklyn*; home and wait orders.
Carpenter, D. N., surgeon, to the *Raleigh*.
Kindleberger, C. P., surgeon, to the Naval Station, Olongapo, P. I.
Riggs, R. E., Geiger, A. J., Backus, J. W., commissioned P. A. surgeons.
Iden, J. H., P. A. surgeon, detached duty with marine detachment at Camp Elliott, Isthmus of Panama; to home and wait orders.

Public Health and Marine-Hospital Service.

List of changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ending Aug. 1, 1906:

Rosenau, M. J., P. A. surgeon, granted leave of absence for one day, July 28, 1906, under paragraph 189 of the Regulations.
Hoildy, W. C., P. A. Surgeon, directed to proceed to Port Harford, Cal., for special temporary duty, on completion of which to rejoin station.
Warren, B. S., P. A. surgeon, directed to proceed to Buffalo, N. Y., for special temporary duty, on completion thereof to rejoin station.
Earle, Baylis H., P. A. surgeon, relieved from duty as Recorder of the board of officers detailed to conduct an inspection of the government buildings and workshops in the District of Columbia, and directed to report for temporary duty to the Director of the Hygienic Laboratory.
Bailey, C. Wm., acting asst.-surgeon, granted leave of absence for ten days from Aug. 6, 1906.
Blain, A. C., acting asst.-surgeon, granted leave of absence for fifteen days from Aug. 2, 1906.
Rice, W. E., acting asst.-surgeon, granted leave of absence for seven days from Aug. 9, 1906.
Sinclair, A. N., acting asst.-surgeon, granted leave of absence for seven days from July 16, 1906, under paragraph 210 of the Regulations.
Walker, T. Dyson, acting asst.-surgeon, granted leave of absence for eight days between June 26, 1906 and July 6, 1906.
Bierman, C. H., pharmacist, granted leave of absence for thirty days from Aug. 5, 1906.

BOARD CONVENED.

A board of officers was to meet at Baltimore, Aug. 2, 1906, for the purpose of conducting the physical examination of officers of the Revenue Cutter Service. Detail for the board: P. A. Surgeon H. A. Stansfield, chairman; P. A. Surgeon J. W. Scherescbewsky, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended August 3, 1906:

SMALLPOX—UNITED STATES.

Florida: Duval County, July 21-28, 1 case.
Kansas: General, June 1-30, 150 cases.
Massachusetts: Boston, July 21-28, 1 case; New Bedford, July 21-28, 5 cases.
Oklahoma Territory: Oklahoma, July 7-21, 5 cases.
Tennessee: Memphis, July 21-28, 3 cases.

SMALLPOX—FOREIGN.

Africa: Cape Town, June 16-23, 1 case.
Brazil: Pernambuco, June 1-15, 4 deaths.
Chile: Antofagasta, June 2-9, 14 cases, 2 deaths; Iquique, June 24, present.
France: Rheims, July 8-15, 12 cases.
India: Madras, June 16-23, 3 deaths.
Italy: General, July 5-12, 31 cases.
Panama: Colon, To July 18, 32.
Russia: Odessa, June 30-July 7, 3 cases, 2 deaths.

YELLOW FEVER.

Cuba: Matanzas Province, Aug. 1, 1 case.
Mexico: Merida, July 8-21, 14 cases, 7 deaths.

CHOLERA.

India: Madras, June 16-23, 2 deaths.
Persia: Schistan, June 23-30, 1 death.

PLAGUE.

Brazil: Bahia: July 2, 1 case; Pernambuco, June 1-15, 1 death.
Chile: Antofagasta, June 2-16, 18 cases, 2 deaths.
Egypt: Alexandria, July 8-9, 3 cases, 1 death.
India: General, June 9-16, 2,224 cases, 1,904 deaths.
Japan: Formosa, June 20-30, 119 cases, 129 deaths.
Peru: Paita, June 15-22, 4 cases, 1 death.

State Boards of Registration

COMING EXAMINATIONS.

CALIFORNIA State Board of Medical Examiners, San Francisco, August 21. Secretary, Chas. L. Tisdale, San Francisco.

WYOMING State Board of Medical Examiners, State Capitol, Cheyenne, September 5. Secretary, S. B. Miller, Laramie.

MASSACHUSETTS Board of Registration in Medicine, State House, Boston, September 11-12. Secretary, Edwin B. Harvey, Boston.

OKLAHOMA Board of Medical Examiners, Guthrie, September 25. Secretary, J. W. Baker, Enid.

NEW YORK Boards of Medical Examiners, Albany, September 25-28. Chief of Examining Division, Charles F. Wheelock, Albany.

Colorado.—Dr. S. D. Van Meter, secretary of the Board of Medical Examiners, sends us a copy of the schedule of minimum educational requirements, adopted July 19, 1906, by the Colorado State Board of Medical Examiners, which will be accepted as sufficient evidence of the educational qualifications of an applicant to entitle him to a license without examination. This new schedule shows a marked advance, requiring graduation from a recognized medical college and an examination of each one licensed. The new schedule reads as follows:

CLASS A.

FOR APPLICANTS GRADUATING PRIOR TO AND INCLUDING 1893.

All applicants who graduated prior to July 1, 1893, must furnish satisfactory evidence of having been matriculated in, and graduated from, legally chartered and reputable medical colleges (at that time in good standing with the Colorado State Board of Medical Examiners), which required a preliminary examination for admission and a minimum of two winter courses of instruction in at least the following subjects, viz.: Anatomy, chemistry, physiology, pathology, surgery, practice of medicine, obstetrics, and materia medica and therapeutics (of the system peculiar to the college). All such applicants must have received a license to practice medicine in at least one of the United States of America or in a foreign country, in which state, or foreign country, the standard of licensure is, in the opinion of the Colorado State Board of Medical Examiners, equal to that of the State of Colorado, and must have been continuously and actively engaged in the lawful practice of medicine since receiving said license.

CLASS B.

FOR APPLICANTS GRADUATING IN 1894 AND 1895.

All applicants who graduated between July 1, 1893, and July 1, 1895, must furnish satisfactory evidence of having been matriculated in, and graduated from, legally chartered and reputable medical colleges (at that time in good standing with the Colorado State Board of Medical Examiners), which gave a minimum of twenty weeks of instruction in each twelve months of three separate years in at least the following subjects, viz.: Anatomy, chemistry, physiology, pathology, materia medica and therapeutics (of the system peculiar to the college), obstetrics, gynecology, surgery, medical jurisprudence, theory and practice of medicine and hygiene, and which required of their graduates of 1894 and 1895, as a matriculation regulation, a diploma of graduation from some approved university or literary, scientific, normal or high school, or a preliminary examination in all the several subjects embodied in the curriculum of graduation examination from a high school. All such applicants must have received a license to practice medicine in at least one of the United States of America or in a foreign country, in which state, or foreign country, the standard of licensure is, in the opinion of the Colorado State Board of Medical Examiners, equal to that of the State of Colorado, and must have been continuously and actively engaged in the lawful practice of medicine since receiving said license.

CLASS C.

FOR APPLICANTS GRADUATING IN 1896, 1897, 1898 AND 1899.

All applicants graduating between July 1, 1895, and Jan. 1, 1900, must furnish satisfactory evidence of having been matriculated in, and graduated from, legally chartered and reputable medical colleges (at that time in good standing with the Colorado State Board of Medical Examiners), which required of their graduates of 1896, 1897, 1898 and 1899 as a matriculation regulation a diploma of graduation from some approved university, or literary, scientific, normal or high school, or a preliminary examination in all the several subjects embodied in the curriculum of an approved high school, and which gave to its students graduating in the years above named four full courses, in four separate years, of instruction in at least the following subjects, viz.: Anatomy, chemistry, physiology, pathology, materia medica and therapeutics (of the system peculiar to the college), surgery, theory and practice of medicine, bacteriology and obstetrics. All such applicants must have received a license to practice medicine in at least one of the United States of America or in a foreign country, in which state, or foreign country, the standard of licensure is, in the opinion of the Colorado State Board of Medical Examiners, equal to that of the State of Colorado, and must have been continuously and actively engaged in the lawful practice of medicine since receiving said license.

CLASS D.

FOR APPLICANTS GRADUATING IN 1900 AND THEREAFTER.

All applicants graduating after Jan. 1, 1900, must furnish satisfactory evidence of having been matriculated in, and graduated from, legally chartered and reputable medical colleges, which enforce the following requirements of matriculation, advanced standing, instruction and graduation.

MATRICULATION.

First.—Creditable certificates of good moral character, signed by two physicians of good reputation in the state in which the applicant last resided.

Second.—As evidence of preliminary education, as a minimum requirement any of the following: (a) A diploma or a certificate of graduation from an accredited four-year high school; (b) a certificate signed by a principal of a regularly organized approved high school, the faculty of a recognized literary or scientific college or university, State Superintendent of Public Instruction, County Superintendent of Schools, or some person or board duly appointed by the State Board of Medical Examiners to conduct such an examination; of having successfully passed an examination in all the several branches embraced in the curriculum of a four-year high school course. The matriculation examination shall not have been conducted by any member of the faculty of the medical college.

ADVANCED STANDING.

First.—Applicants holding the degree of A.B. or B. S., or an equivalent degree or certificate obtained in an elective course, from a regularly established and approved college of arts or science, which requires an attendance of four years as an essential to graduation, may be given credit for work actually done in the branches in the medical curriculum of the first year and may be advanced to the second year of a four-year medical course, on condition that they comply with the matriculation requirements of this schedule and that they subsequently complete the work of the first year, and provided that the work already taken shall not be below the standard required by this board.

Second.—Graduates of medical colleges complying with the provisions of this schedule may be admitted to any class without examination. Students of such colleges, who possess certificates of attendance and of successful examinations, can enter without examination the term immediately following that previously attended.

COURSE OF INSTRUCTION.

First.—The course of instruction must consist of a minimum of four terms in four separate years of nine months each, on at least the following subjects, viz.: Anatomy, chemistry, physiology, pathology, bacteriology, materia medica and therapeutics (of the system peculiar to the college), theory and practice of medicine, obstetrics, gynecology, surgery, ophthalmology, otology, laryngology, dermatology, neurology, hygiene and medical jurisprudence.

Second.—The number of hours of instruction given in the four terms to be not less than thirty-six hundred (3,600).

Third.—Such colleges must possess adequate laboratory and teaching equipment, and ample hospital facilities for clinical instruction, such as obtain in the majority of medical colleges in the United States, and a proper corps of competent teachers to constitute a faculty, whose salaries are not dependent on the graduation of students.

Fourth.—Clinical and hospital instruction throughout at least two annual terms.

Fifth.—A full dissection of at least the lateral half of a human cadaver.

Sixth.—Regular attendance during the entire lecture course, allowance being made only for absence occasioned by the sickness of the student, or his immediate family, such absence not to exceed 20 per centum of the course.

GRADUATION.

First.—A record for sobriety, honesty and integrity during the college course.

Second.—The attendance on the four full terms of lectures as prescribed (certain persons to whom advanced standing is allowed excepted).

Third.—Students, graduates as well as undergraduates, allowed advanced standing must attend all lectures and stand all examinations embraced in the last year of the curriculum.

LICENSE TO PRACTICE MEDICINE.

All such applicants must have received a license to practice medicine in at least one of the United States of America or in a foreign country, in which state, or foreign country, the standard of licensure is, in the opinion of the Colorado State Board of Medical Examiners, equal to that of the State of Colorado, and must have been continuously and actively engaged in the lawful practice of medicine since receiving said license.

CLASS E.

PHYSICIANS AND SURGEONS IN THE UNITED STATES SERVICE.

This class includes all applicants who have been admitted, and are duly authorized and empowered to practice medicine in any of the regular medical departments of the Army, Navy and Public Health and Marine-Hospital Service of the United States of America, and are in good standing and of good repute in such Federal service.

Society Proceedings

COMING MEETINGS.

American Orthopedic Association, Toronto, Canada, Aug. 20-21.
British Medical Association, Toronto, Canada, Aug. 21-23.
American Roentgen Ray Society, Niagara Falls, Aug. 29-31.
Am. Acad. of Ophthal. and Otol., St. Clair, Mich., Aug. 30-Sept. 1.
Western Surgical and Gyn. Ass'n., Salt Lake City, Aug. 31-Sept. 1.
Medical Soc. of the Missouri Valley, Council Bluffs, Iowa, Sept. 6-7.
Med. Soc. of the State of Pennsylvania, Bedford Springs, Sept. 11-13.
Washington State Medical Association, Spokane, Sept. 11-13.
Assn. of Military Surgeons of the U. S., Buffalo, N. Y., Sept. 11-14.
American Electro-Therapeutic Association, Philadelphia, Sept. 18-20.
Am. Assn. of Obstetricians and Gynecol., Cincinnati, O., Sept. 20-22.

AMERICAN PROCTOLOGIC SOCIETY.

Eighth Annual Meeting, held in Boston, June 5-6, 1906.

The President, DR. L. H. ADLER, JR., of Philadelphia, in the Chair.

Medical Specialism.

In his annual address the president discussed the various phases of this subject, arguing that the science of medicine and the public both profit by division of labor. The thing which has probably been responsible for most of the criticism of the specialist is the lack of adequate preparation of many of those posing as such. Something more than a six weeks' post-graduate course is necessary for proper equipment. Five to ten years in the practice of general medicine as a basis, and not less than one year devoted to study of the chosen specialty should be deemed little enough. The antagonism existing on the part of the general practitioner toward the specialist in most instances is due to the fact that the latter fails to recognize the consideration due the former as the family physician. No reference of the patient to another specialist should be made without consulting with the family physician, and all constitutional treatment should be left to him. In dealing with the patient the specialist should at all times protect the former physician, whether referred by him or not. A shrug of the shoulder or elevation of the brow is more eloquent than the spoken word.

Cancer of the Rectum.

DR. W. M. BEACH, of Pittsburg, from an experience with some twenty cases, drew the following conclusions: 1. That a radical operation for cancer of the rectum is indicated, (a), where the disease is not far advanced; (b), where the cancer is located in the anal region and does not involve neighboring structures. 2. Cancer of the movable rectum should be classed as inoperable as far as results are concerned. 3. In cancer high up, colostomy offers the best results. 4. Complications by metastasis and mechanical obstruction indicate colostomy.

New Operation for Carcinoma of the Rectum.

DR. GEO. B. EVANS, of Dayton, said that his proposed operation for cancer of the rectum has for its object: First, a low operative mortality; second, a high percentage of ultimate cures, based on the three-year rule; third, leaving our patient in as comfortable and presentable condition as possible. The technic is about the same as all authors employ, with the exception that he transplants the levator ani muscles and neighboring fascia to the bowel after the disease has been removed, and before the bowel has been stitched to the anus; and he inserts his drainage, fan-shaped, posteriorly to the bowel and in front of the coccyx. The transplantation produces a constriction, and a so-called third sphincter. The drainage so placed allows better union at the anus. He has employed this technic in five cases and in each case the patient has been able to control the bowels and keep clean and neat without the use of a napkin. By virtue of the circular fibers of the bowel and the extensive denudation following the technic, by the transplantation of the levators and neighboring fascia, he obtains the third sphincter, so-called, and thereby controls the action of the bowels.

Operative Treatment of Cancer of the Rectum.

DR. J. COLES BRICK, Philadelphia, expressed a decided preference for the abdomino-perineal method of operation and gave the technic of the method as advised by Quenu and modified by Mayo as being the nearest to the ideal. Two points were emphasized. 1. In view of the large percentage of returns of the growth after removal by the best operators, the first thing to do is to educate the general practitioner to the importance and method of making a rectal examination for the earliest symptoms. 2. The anastomotic circulation of the lymphatics at the anal margin with the sacral glands shows that all attempts at preservation of the sphincters are futile, except in very rare cases, and the lymphatic vessels and glands in all cases should be removed as far as the promontory of the sacrum.

Incontinence of Feces Following Operation for Fistula in Ano.

DR. LOUIS J. KROUSE, of Cincinnati, expressed the opinion that this accident is due to the action of the levator ani

muscles on the cut ends of the sphincter. In order to prevent this he suggests that the internal sphincter should never be divided in its entirety, or if this is absolutely necessary that it should either be closed by sutures, or, better, the action of the levator should be counteracted by incising it on each side of the primary incision.

The Ataxic Rectum.

DR. C. F. MARTIN, of Philadelphia, said that among the early rectal symptoms of locomotor ataxia are extreme constipation, rectal crises, lessened myotatic irritability of the anal sphincters and disturbances in sensation of the anal skin and of the rectal mucosa. At times there is more or less loss of the voluntary control of the bowels. When the finger is introduced into the ataxic rectum and firm pressure is made on the sphincters in a lateral direction, the anus can be made to relax, permitting a view into the lower rectum without the aid of a speculum. This is due to the loss of voluntary contraction of the external sphincter. In a few cases, after dilating the muscle, the anus remained patulous for several seconds, apparently caused by the loss of muscle sense. Anesthesia of the anal margin and of the lower rectal mucosa was marked. Persistent constipation is a marked symptom, but one case showed a tendency to periodic evacuations.

Rectal crises were observed in four cases. The pain did not appear to hold any relation to the condition of the rectum, whether the rectum was full or empty, or whether before or after stool, and the expulsion of flatus did not bring any relief. Subjectively, some of the patients complained of a feeling of fullness in the rectum, as if the bowels needed to be emptied. Attempts at stool gave no relief and no lesions were found in the rectum. No feces were present. Loss of sensation of the anal margin causes staining of the perineal region from the leakage of feces and mucus from the anus. Where spasm of the internal sphincter exists, associated with a sensory paralysis of the external muscle, the anus may appear funnel-shaped, simulating that condition supposed to be due to the practice of passive pederasty. There may also be present a prolapsed condition of the anal skin and mucosa, and, in addition to this, there may be some hypertrophy of the anal margin.

The treatment of ataxic constipation is unsatisfactory, but some results may be obtained by training the patient to make regular attempts at stool. Abdominal massage may be tried and regular doses of the mild saline laxatives will help some cases. One-sixteenth of a grain of the extract of physostigma, given three times daily, is a valuable addition to the saline laxative.

Technic of Local Anesthesia in Rectal Surgery.

DR. J. P. TUTTLE, of New York, described his well known technic, which he has employed in about 400 cases with excellent results.

Pruritus Ani.

DR. T. C. HILL, of Boston, said that the treatment consists in restoring the altered perineal skin to normal. For this purpose nitrate of silver and citrine ointment are the best applications.

Appendicostomy and Cecostomy for Relief of Chronic Diarrhea.

DR. S. G. GANT, of New York, treated nine cases of persistent ulceration, colitis and chronic diarrhea by means of appendicostomy and cecostomy, there being eight appendicostomies and one cecostomy. A cure was obtained in all the cases except two within a few weeks. Of the failures one was due to death caused by sloughing of the cecum; in the other the operation was successful, but through and through irrigation was prevented because of a stricture in the transverse colon. The results obtained from one irrigating fluid were as good as from another when the irrigations were used daily and in sufficient quantity. Primary union was obtained in all but three cases, and the opening of the appendix during the operation to see if it was patent did not appear to add to the danger of suppuration. In one instance the appendix was found to be strictured and Gibson's valvular cecostomy was resorted to. Only one unpleasant sequela, that of ventral hernia, followed these operations.

Air Dilatation in the Treatment of Chronic Constipation.

DR. LOUIS J. HIRSCHMAN, of Detroit, believes that this disease is most frequently due to atony of the bowel. An atonic bowel requires a stronger stimulation to produce contraction than a normal bowel, and this the author proposed to furnish by air dilatation. The apparatus he uses consists of a rubber bag, which is slipped over the end of a Wales bougie and is distended by means of a hand bulb or compressed air. The bag is passed into the sigmoid and is alternately inflated and deflated several times for about five minutes. It is then withdrawn in an inflated state so as to massage the entire rectum and gently distend the anus. The author's experience has proved this to be a very valuable mode of treatment.

Rectal Pathology Due to Extrarectal Causes.

DR. A. B. COOKE, of Nashville, finds the female far more subject to disease of this kind than the male, neoplasms of the pelvic viscera, inflammatory masses and bands and the retrodisplaced uterus being the causes most frequently met. The pathology and symptoms in these cases have nothing to distinguish them. The feature of most importance is the diagnosis, not only of the rectal, but of the extrarectal cause which produces it. No case of rectal disease receives proper attention when the investigation is confined to the rectum alone. Occasionally removal of the extrarectal cause will be all that is needed to effect a cure. This is always the first consideration, and when not effective alone the further treatment will depend on the nature and extent of the rectal lesion, differing in no respect from that of similar lesions due to other causes. The author reported three illustrative cases.

Officers Elected.

The following officers were elected for the ensuing year: President, Dr. S. G. Gant, New York; vice-president, Dr. G. B. Evans, Dayton; secretary-treasurer, Dr. A. B. Cooke, Nashville. Executive council: Dr. Louis H. Adler, Philadelphia (chairman); Dr. S. G. Gant, New York; Dr. A. B. Cooke, Nashville, and Dr. W. M. Beach, Pittsburg.

ST. LOUIS MEDICAL SOCIETY OF MISSOURI.

Regular Meeting, held June 16, 1906.

The President, DR. GEO. HOMAN, in the Chair.

Surgical Treatment of Epithelioma.

DR. M. B. CLOPTON said that surgical interference in new growths is not difficult in the early stages. Opposed to this view stand two factions: First, the "medical-cancer-fatalists" who decry the diagnosis, and by skeptical allusions make the patient of the same mind; second, the group which fears the knife and is willing to undergo anything to avoid operation. The first lesson to be learned is that the earliest removal of epitheliomatous tissue insures perfect cure. A second lesson which has been learned is that in cases apparently hopeless, by a combination of wide excision of the epitheliomatous growth and the application of the *x*-rays, years of life can be added to the patient's otherwise short lease of life.

The application of *x*-rays requires a technic that only a few operators acquire. In unskilled hands the *x*-ray may exert an opposite function and stimulate the malignant cells. In excising the ulcer, the operation should go at least one-half inch into healthy tissue to insure perfect results. Inasmuch as rodent ulcer is not carried to the glands, the operation resolves itself into a plastic operation. In the larger growths there is a certain element of danger, and in some cases the cause of death has been erysipelas, pyemia and meningitis. These causes ought to be eliminated and the mortality reduced. The reasons for bad results are the use of caustics and the infrequent use of the *x*-ray. Patients who are not cured are benefited, and there is always relief from pain.

True epithelioma which attacks the lips is almost as slow in its growth as is rodent ulcer, or it may take on the picture of an acute infection and the patient will die within a few months. The submaxillary glands become involved in this condition and it is best to remove them. Most cases adapt themselves to a V-shaped incision, through which the lymph glands

of the neck can be removed. Lip cancers should be excised and then the rays applied. The glands should always be removed. In lip cancer the mortality is less than 1 per cent, with 56 per cent. of cures of all cases. The condition is hopeless and operation useless if the bone is involved.

X-Ray Treatment of Epithelioma.

Dr. H. P. Wells agreed that the best results depend on the technic of the operator. He has taken a few cases and obtained gratifying results where no improvement had taken place previously under *x*-ray treatment. It occurred to him that he was justified in some bad cases of cancer of the skin in burning them severely. Instead of eight or ten inch tube distance, he placed the tube two or three inches from the lesion, with a soft light and with exposures of from fifteen to twenty minutes. The ultimate effect was satisfactory. He touched on the need of having some means of measuring the dosage of the rays.

Cases of Skin Cancer Treated by X-Rays.

Dr. W. H. Mook presented a number of interesting cases. The first patient was 66 years old; family history negative. Present trouble began five years ago, with a lesion on the nose, the entire surface of the nose and cheeks being gradually affected. There was ulceration of the entire nose and cheeks, also a lesion on the side of the neck. Over the left temple was a small ulcerated tumor. There was a keratotic condition of the skin of the hands, known as "sailor's skin," with pigmentation and atrophy. This patient was treated for twelve months without results. Six weeks ago Dr. Wells increased the dosage of the rays with beneficial effects. The next case was one of lupus. The patient was 30 years of age. After an attack of erysipelas, the lupus extended all over the face. The mucosa showed tubercles. There was lymphatic edema, illustrating a rare form of lupus. Histologic examination showed small tubercles deep in the cutis, composed of round cells and giant cells. The patient showed some improvement under *x*-ray treatment. A woman, 19 years of age, ten years ago suffered a severe burn of the thigh. The left posterior side refused to heal. When patient entered the hospital, two-thirds of the posterior surface of the left thigh presented the picture of a fungating carcinoma. The edges of the wound were elevated. Inguinal glands were enlarged. *X*-ray treatment was given with improvement. The patient is suffering from pulmonary tuberculosis also, but in spite of this, she continues to improve in weight.

Case of Carcinoma and Lupus.

Dr. Joseph Grindon presented a case of carcinoma and lupus, an American, of American parentage on both sides, and American lupus is comparatively rare. Another point that is interesting is that although the tuberculosis of the skin in this case was well marked, the patient's general health was excellent. The trouble is purely local. A third point of interest is the length of time, 57 years, which the disease has lasted. There is a characteristic appearance of the nose—the disappearance of all the cartilaginous tissue.

There developed at one time during the treatment of this case a burn from the rays on the right cheek, a burn of the second degree. It yielded without trouble to treatment, yet precisely at that point there developed the carcinomatous change. Whether it was caused by the burn or whether it was merely a coincidence, the speaker did not know. The lupus is entirely healed, but there are a few places which are "lupoid." There existed in this case a troublesome nasal catarrh, which was lupoid in character, and that is now entirely well. The *x*-ray was used to treat the carcinoma on the cheek without result. Dr. Morfit excised the growth and it returned. A second operation was performed. Ectroplon followed.

Radiographs of Interesting Cases.

Dr. A. V. L. Brokaw showed a picture of a vesical calculus, pictures of bullets in the body, fractures and dislocations of all kinds and varieties. He showed one picture of a Murphy button *in situ*, and one picture of a lost drainage tube. A number of other pictures were shown, illustrating the usefulness to the practical surgeon of *x*-ray pictures.

Therapeutics

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulæ and outlines of treatment are answered in these columns.]

Alopecia.

In the treatment of alopecia, J. N. Hyde states that local methods are of importance in nearly all cases and should be directed toward stimulating the nutrition of the hair follicles by producing an artificial hyperemia. This may consist in daily brisk but light rubbings of the scalp with a brush or by massage with the fingers, aided by some local application. The following are some of the combinations recommended by him for such conditions:

℞.	Hydrarg. bichloridi	gr. v	30
	Spts. vini rectif.	℥ii	60
	Acidi acetici	℥ii	8
	Glycerini	℥ss	15
	Aquæ rosæ	℥vi	180
M.	Sig.: Apply locally.		
Or,			
℞.	Hydrarg. bichloridi	gr. iii	20
	Tinct. cantharidis	℥ss	15
	Olei amygdalæ dulc.	℥i	4
	Spts. rosmarini	℥i	30
	Spts. vini rectif.	℥ii	60
	Aquæ dest., q. s. ad	℥vi	180
M.	Ft. lotio. Sig.: Apply locally.		
Or,			
℞.	Sulphuris precip.	℥i	4
	Lanolini		
	Glycerini		
	Aquæ rosæ, ää	℥iiss	10
M.	Sig.: Apply locally.		

Hyperidrosis.

Sweating, limited to the feet, hands or axillæ, according to L. F. Appleman in an abstract in the "Pract. Med. Series," requires very energetic treatment. Baths of formalin or potassium permanganate will cause the fetid odor to disappear rapidly. The former may be used as follows:

℞.	Formalin	℥i	4
	Aquæ	Oii	1000
M.	To be used as a bath locally.		
Or,			
℞.	Potassii permanganatis	℥iiss	10
	Aquæ	℥x	300

M. Sig.: One dessertspoonful to a quart of water for a local sponge bath.

Brocq recommends the following combination:

℞.	Betanaphthol	℥i	4
	Glycerini	℥ii	8
	Alcoholis	℥iiss	75

M. To be used locally, followed by a powder of salt, starch, bismuth, subnitrate, or the following:

℞.	Acidi salicylici	gr. xlv	3
	Pulv. amyli	℥iiss	10
	Pulv. talci	℥vss	85
M.	Sig.: Apply locally as a dusting powder.		
Or,			
℞.	Acidi salicylici	gr. xlv	3
	Pulv. amyli	℥vss	22
	Beta naphthol		
	Sodii boratis, ää	℥iiss	10
	Pulv. sodii chloridi	℥ivss	22
M.	Sig.: Apply locally.		

Once in eight days a few drops of the following combination may be dropped between the toes:

℞.	Plumbi oxidi rubri	gr. xv	1
	Sol. plumbi subacetatis	℥vii	28
M.	Sig.: Apply locally between the toes once every eight days.		

Erysipelas.

The following local application is recommended by Meunier in *Presse Medicale* as local treatment of erysipelas:

℞ Menthol ..... gr. xl | 2.65
Pulv. camphoræ ..... gr. x | .65
Olei betulæ ..... ℥i | 4
Guaiacol ..... m x | .65
Petrolati liq. ..... ℥iii | 12
Lanolini ..... ℥iv | 15

M. Sig.: Apply locally with slight friction.

Local Treatment of Throat and Nasal Disturbances.

The following combinations as recommended by Shurly in his "Dis. of Nose and Throat," are of value as cleansing and antiseptic sprays:

℞ Ammonii chloridi ..... gr. xl-lxxxx | 1.65-5
Aquæ dest. vel
Aquæ mentholis ..... ℥viii | 240

M. Sig.: To be applied locally as a cleansing and mildly stimulating spray.

Or,

℞ Sodii benzoatis ..... gr. v | .30
Acidi carbolici ..... gr. i | .06
Glycerini ..... ℥i | 4
Aquæ dest ..... ℥vii | 28

M. Sig.: Use as an antiseptic and cleansing spray for throat or nose.

In cases of acute coryza the following is of value:

℞ Sodii benzoatis ..... gr. xl | 2.65
Aquæ calcis ..... ℥viii | 240

M. Sig.: Use locally as a spray in all forms of acute coryza.

In cases of syphilitic lesions and ulcerations the following combination is recommended as an antiseptic:

℞ Hydrarg. bichloridi ..... gr. ss-i | .03-.06
Aquæ cinnamomii ..... ℥viii | 240

M. Sig.: As a spray locally.

As an astringent the following:

℞ Sodii bicarb. ..... gr. xxv | 2.65
Ext. hamamelidis dest. ..... ℥i | 30
Aquæ dest ..... ℥v | 150

M. Sig.: As spray for cleansing and astringent effects.

Or,

℞ Sodii bicarb ..... gr. xl-lx | 1.65-4
Aquæ picis
Aquæ dest., ää ..... ℥iv | 120

M. Sig.: Use as a spray.

As an anodyne to the mucous membrane the following combination is recommended:

℞ Mentholis ..... gr. i | .06
Alcoholis ..... mv | .30
Calc. phos. precip. ..... gr. v | .30
Aquæ, q. s. ad ..... ℥ii | 60

M. Sig.: Apply locally to the mucous membranes as an anodyne.

As an astringent for the pharynx and larynx the following may be used:

℞ Cocainæ hydrochlor ..... gr. iv | .30
Aluminis ..... gr. x | .65
Aquæ ..... ℥i | 30

M. Sig.: Apply as a spray to the pharynx or larynx. [This should be used by the physician only.]

As a strong astringent the following combination containing lead acetate is recommended:

℞ Plumbi acetatis ..... gr. v | .30
Potassii acetatis ..... gr. x | .65
Aquæ dest ..... ℥iv | 120

M. Sig.: Use locally as a spray when the congested parts demand a strong astringent.

In cases of ozena the following combination containing ichthyol is of service:

℞ Ichthyoli ..... ℥ss-i | 2-4
Aquæ ..... ℥iv | 120

M. Sig.: Use locally as a spray.

In cases of atropic pharyngitis the following combination is of value as a stimulant to the poorly functionating mucous membrane:

℞ Fld. ext. xanthoxyli ..... ℥i | 30
Spts. rectificati ..... ℥ii | 8
Sodii phosphatis ..... ℥i | 4
Glycerini ..... ℥iv | 15
Aquæ dest., q. s. ad ..... ℥viii | 240

M. Sig.: Apply as a stimulant to the mucous membrane of the pharynx.

Astringent sprays containing tannic acid may be combined as follows:

℞ Acidi tannici ..... gr. v-xv | .30-1
Alcoholis ..... ℥ss | 15
Aquæ dest. ..... ℥viii | 240

M. Sig.: Apply locally as an astringent spray.

Or one containing alum as folows:

℞ Aluminis ..... gr. xl-lx | 2.65-4
Acidi carbol ..... gr. xv | 1
Glycerini ..... ℥ii | 60
Aquæ dest. ..... ℥vi | 180

M. To be used locally to throat and nose.

In some cases oleaginous sprays are preferable. In such event Shurly advises the following combinations:

℞ Olei picis ..... ℥i-ii | 4-8
Olei gossypii sem. ..... ℥viii | 240

M. Sig.: As a spray locally.

Or,

℞ Olei eucalpyti ..... ℥i | 4
Petrolati, liq. ..... ℥viii | 240

M. Sig.: Locally as an oily spray to the membranes of the nose or throat.

Or,

℞ Olei rosmarini
Olei eucalypti, ää ..... m. xv | 1
Petrolati, liq. ..... ℥iv | 120

M. Sig.: As a spray locally.

Or, as Kyle suggests, the following:

℞ Camphoræ ..... gr. i | .06
Mentholis ..... gr. iii | .20
Acidi carbolici ..... m. ii | .12
Petrolati, liq. ..... ℥i | 30

M. Sig.: Use as a spray locally.

Grayson states that iodin is the most useful of the glandular and vascular stimulants and alteratives. He recommends that it be employed either as a spray or pigment. As a spray the following combination is recommended:

℞ Acidi carbolici (crys.) ..... gr. xxiii | 1.65
Tinct. iodi comp. ..... ℥i | 4
Glycerini ..... ℥iss | 45
Aquæ dest. ..... ℥ii | 60

M. And place in water bath at a temperature of 100 F. in a tightly corked bottle until the solution becomes colorless; then filter. Sig.: To be used as a spray.

In cases of atrophic rhinitis the following combination is recommended by Grayson:

℞ Iodi ..... gr. viii | .50
Potassi iodidi ..... gr. xvi | 1.06
Zinci sulphocarbol ..... ℥ss | 2
Creolini ..... m. xlv | 3
Aquæ, q. s. ad ..... ℥vi | 180

M. Sig.: Use as an antiseptic, stimulant and deodorant spray.

In chronic catarrhal conditions of the upper air passages the following combination is of value:

℞ Thymolis ..... gr. x | .65
Olei rosæ ..... gtt. vi | .40
Mentholis ..... gr. xx | 1.20
Eucalyptol ..... gtt. xx | 1.20
Olei cubebæ ..... gtt. xl | 2.65
Petrolati, liq. ..... ℥vi | 180

M. Sig.: Use as a spray locally.

Medicinal Doses for Infants.

Several correspondents have asked for some rule by which to compute doses for infants under one year of age.

There is no rule that can be followed safely in enough cases to justify calling it a "rule," the exceptions for various reasons will be so many. Cotton well says that the great error in the treatment of infants is the too common habit of regarding the infant as a miniature edition of the adult. The quantity of a certain medicinal preparation required to produce certain effects on an infant can not be calculated properly by basing that calculation on the effect of the same preparation on an adult. Consequently, the initial dose, to a certain extent, must be experimental and not to be calculated by a formula. It is necessary, therefore, to follow the following precautions:

1. Begin with small doses unless you are acquainted with the patient's tolerance.
2. Repeat the dose at short intervals.
3. Give one preparation at a time or accompanied by as few synergists as possible.
4. Keep in mind the fact that infants take up and eliminate drugs very rapidly as a rule, unless there is present some catarrhal condition of the gastrointestinal tract.

After all this is said, however, there is still need of a starting point for the dosage computation and Young's rule for doses for children (which is given in most of the textbooks on materia medica) may assist. It is as follows: Divide the adult dose by a divisor secured thus: Add 12 to the age in years and divide by the age. For example: The adult dose is one teaspoonful; the child's age is 3 years; 3 plus 12 equals 15; 15 divided by 3 equals 5; the dose is therefore one-fifth of a teaspoonful. Thus also the dose for an average, normal child of one year might be computed as one-thirteenth of the adult dose. This one-year old dose, in turn, can be taken as a basis for fractional division according to the weight, vigor and susceptibility of the baby, which factors are to be appreciated at their full value. Furthermore, it should be remembered that infants show marked idiosyncrasies toward some preparations and increased tolerance for others. In the former class is included opium and its preparations, and in the latter may be included calomel, arsenic and belladonna. This subject is well forth careful study, for, as Butler tersely puts it, dosage is the most vulnerable point of therapeutic science, yet one on which the art of healing almost wholly depends.

Hay Fever.

A query from a correspondent reminds us that the time of year is at hand when the general practitioner will be consulted by hay-fever patients as to the best summer resorts for them to visit in order to escape the attacks of hay fever, it may be well to mention some of the most common and frequented places for such patients. According to Guy Hinsdale, in "System of Physiologic Therapeutics," the ordinary coryza form and the conjunctival form which generally occur together, and the severer asthmatic form, are all best prevented by avoiding the exciting cause—that is, by avoiding the proximity of hay fields, or those places where the ragweed may be encountered.

During the worst season he recommends a sea voyage, which gives immediate relief, but the patient should not return until the season for hay fever has passed, otherwise he may be attacked. According to Hinsdale, there are innumerable places in the United States and Canada where sufferers from this disease may find complete relief. He regards the White Mountain region in New Hampshire as one of the best locations in this respect. He mentions, in this connection, Bethlehem, Maplewood, Dixville Notch, Crawford, Twin Mountain and Waumbek. He also states that the cultivation of sweet peas and other flowers may destroy the immunity which some of these places have enjoyed. Some hay-fever patients may be forced to seek other places farther north, such as the Maine woods, about Rangeley, Moosehead Lake, the Canadian woods, and places in New Brunswick and Nova Scotia.

St. Andrews and Dalhousie, in New Brunswick, and the resorts of Cape Breton, are, according to the author, quite exempt from hay fever. Muskoka Lake, in Canada, and the shores of Lake Superior are recommended as favorable locations for such patients. Nantucket Island, Beach Haven, N. J., and some of the sea and mountain resorts of lower New England, Long Island, and some of the southern states may be suitable to some individuals, but as a rule are not adapted to such cases. Except the less inhabited mountainous regions of some of the southern states, as in North Carolina, which may be chosen in case one should prefer camp life, the almost universal presence of the golden rod, rag weed, and cultivated gardens, together with the dusty roads and other irritants, the middle, southern, and west central United States are not, as a rule, safe for hay-fever sufferers. He speaks, however, of the far west, at high elevations, as at Banff, in the Rock Mountains of British Columbia, as affording relief to such sufferers.

Medicolegal

May Testify as to Cause of Death, Although Not Present at Death.

The Supreme Court of Michigan says that, in the case of Chadwick vs. The Phœnix Accident and Sick Benefit Association, it was contended that the trial court had erred in permitting a physician to testify to the cause of death of the insured, it being insisted that this testimony was inadmissible because the physician was not present when the death occurred. It appeared, however, that the physician was the attending physician and had called on his patient once each day for several days preceding his death. Under these circumstances the Supreme Court holds that there was no error, that the testimony was admissible.

Counties Without Power or Liability as to Smallpox.

The Supreme Court of Wisconsin says, in the case of Martin vs. Fond du Lac County, that there is no common-law liability of counties to care for the poor or to conserve the public welfare by preventing the spread of contagious or other diseases or caring for those afflicted therewith. Counties have no power whatever, as indicated, except as derived from the written law. There is no statute in Wisconsin imposing the duty on counties, primarily or otherwise, to take charge of and care for persons because of their being afflicted with smallpox. The statute, section 1416 of the Revised Statutes of Wisconsin of 1898, clearly imposes that duty on the particular subdivision of the county wherein the necessity arises, whether in the particular instance the person is a resident thereof or is a pauper or stranger. It provides that when any person shall be infected with the smallpox "the proper board of health" shall act in the matter. The term "proper board of health" plainly restricts the liability as stated, because there is no statute providing for county boards of health.

Field for Laws—Against Buying Patients—Association.

The Supreme Court of Arkansas says, in Thompson vs. Van Lear, where it holds valid the act of 1903 prohibiting physicians from soliciting patients through paid agents, that it was argued with much earnestness that laws of this kind are unwise, counsel quoting from Herbert Spencer, who says, in his "Social Statics," that there are no sound reasons why the principles of free trade should not be extended to medical advice and practice. And the court says that there is no doubt some truth in the assertion that it is not best for the law to give too much aid, for people should be taught self-reliance. But this argument is one that should be addressed to the legislature and not the courts. If followed to its logical end it would result in allowing every one to practice medicine who wished to do so, and that is in effect what the author contends should be done. But, however well that may sound as a theoretical proposition, it does not work well in actual practice if we judge by the statutes of the different states, for there is hardly a state in the Union that does not regulate the practice of medicine by requiring some showing of qualification before a license to practice is granted. The tendency is toward raising the standard for admission to practice rather than lowering it. But, as before stated, those are questions for the legislature and not for the courts. The legislature has acted in this matter, and whether the law be wise or foolish the courts must enforce it if it be valid. Under its police power the state has the right to prohibit things that are hurtful to the comfort, safety and welfare of society. It is now well settled that in the exercise of this power the state may regulate the practice of medicine and surgery. The law in question concerns the public health, over which the police power has the fullest away, for, health being the *sine qua non* (indispensable condition) of all personal enjoyment, it is not only the right but the duty of the state to pass such laws as may be necessary for the preservation of the health of the people.

Continuing, the court says that counsel quoted Oliver Wendell Holmes as saying that "if the whole materia medica was sunk to the bottom of the sea it would be all the better for mankind and all the worse for the fishes." The court does not dispute that statement, for there may be some truth in it,

and it is possible that the legislature had something of the kind in mind when it passed this act. It may have thought that people are too much inclined to imagine themselves in ill health, too prone to consult doctors and take medicine anyway without being urged to do so by hired agents. If it is true, as the "eminent medical authority" quoted by counsel says, that "out of twenty-four serious cases of disease three could not be cured by the best remedies, three others might be benefited and the rest would get well anyway;" if this be true, is it not better, as a rule, to "throw physic to the dogs" and let Nature take her course? Now it is probable that the conscientious physician would give that advice to his patient in a case where he needed no medicine. But it is not likely that a physician would hire an agent to drum up patients for him only to say to them, "Go thy way; thou dost not need a physician." A physician who has secured a patient by means of a hired agent has paid out a certain sum to obtain his patient and is under a strong temptation to put him through a course of treatment, whether he needs it or not, in order to get his money back and make a profit on his investment. and therein lies a danger to the public from such a practice. When a physician obtains patients in that way he in effect buys them, just as if he said to the agent, "I will pay you a certain sum for every patient you send me," or "Will pay you a certain fee out of the money I receive from each patient you send me." Now the court does not think prudent people would wish to submit to the advice of a physician who had paid out money to get them under his treatment. To be successful the agent would necessarily have to keep his interest in the transaction secret from the patient, and it can be easily seen that such a method of securing patients would very often result in imposition and fraud on the patient and in inducing many people to take treatment who did not need it.

As the court has stated, even persons of good health are often too prone to imagine themselves in need of medicine. If it is unsafe to allow such persons to be solicited by hired agents to take what they do not need, how much worse is it to expose the sick to such influences? A man or woman who is laboring under a bodily disease is, other things being equal, more easily imposed on than one who possesses a sound mind in a sound body. The mind of the sick man, like his body, is in an abnormal condition. He is inclined to grasp at shadows and to pursue the wind, and is easily misled into paying money for medical treatment that he does not need. The man who is induced by an agent to buy goods of a merchant can see the goods and judge of his quality before paying his money, but the sick man must take the treatment for which he pays as a matter of faith. As to whether he will be benefited or not, he can only conjecture. He can only judge of the value of the treatment to which he submits by its subsequent results, and not even then with any degree of accuracy, for the causes which lead to health or disease are often obscure. They elude even the trained mind of the physician and much more easily that of the patient.

The objections which the court has stated to this method of securing patients, the temptations to which it would subject the physician and the danger to which it would expose the patient, show a wide distinction between the case of a merchant who drums for custom by hired agents and that of a physician who seeks patronage in the same way. The business of the physician directly affects the public health, and it does not follow because the merchant, the manufacturer and others may solicit trade through hired agents that a physician may do the same thing. The legislature has forbidden the physician to do so, and there are, in the court's opinion, sound reasons on which to base the distinction. The law thus undertakes to protect the physician from the temptations and the patient from the danger to which they would be exposed by such a practice.

The law being held valid, it follows that an association of physicians formed for the purpose of upholding it and preventing its violation were engaged in a lawful undertaking, and that there were no grounds for an injunction against them, even if their agents made occasional mistakes and prosecuted innocent parties.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York.

July 28.

1 *Health of School Children. L. H. Gulick, New York.
2 *Physical Care of School Children. R. G. Freeman, New York
3 *Treatment of Appendicitis. F. D. Gray, Jersey City, N. J.
4 *Comparative Treatment of Intestinal Amebiasis. W. R. Moulden, Washington, D. C.
5 Review of the Evolution of Modern Surgical Treatment of Fibroid Tumors of the Uterus. L.R. Broun, New York.
6 *Administration of Drugs to Concurrently Retard and Stimulate Systemic Oxidation. B. Oettinger, Denver.

1. **Health of School Children.**—Gulick discusses ventilation, heating, purity of air, lighting, vision, seating, scoliosis, overstudy, feeble-minded children, defective children, physical training, and instruction in physiology and hygiene, in relation to the health of school children. He then formulates certain ideals toward which he believes that additional progress should be made with reference to their health. There should be individual care, personal inquiry into, and knowledge of the home life of approximately the lower tenth of every class. There should also be consecutive records of all children as to age, height, weight, eye, ear, nose, throat, heart, lungs, and so on. The size of classes should be decreased. There should be an open-air playground within walking distance of each child. Special classes and schools should be organized for defective children of all kinds. The most serious obstacle to progress is the lack of informed public opinion concerning the necessities of school children.

2. **Physical Care of School Children.**—Freeman says that an ideal private school should be out of town, but within easy reach of the homes of its patrons. There should be short periods of study, frequent recesses, and ample time for a substantial midday meal. After this the children should play out of doors. The ideal public school should care for the children as many hours a day as is practicable. Out-door play should precede study. Nutritious food should be furnished the scholars at noon. The harder work should come during the morning hours; in the afternoon the easier subjects, the manual work, and preparation for the next day should occupy the time. There should be opportunity for out-door exercise under supervision until late afternoon. In every school strict examination should be made for any evidence of contagious diseases. All children with colds and contagious eruptions should be excluded from school.

3. **Treatment for Appendicitis.**—Gray reviews Ochsner's methods and statistics. He believes that eventually mouth starvation, rectal feeding, gastric lavage, if indicated, and small saline enemata, will be accepted as essential even in cases in which the surgeon believes it either unwise or unsafe to attempt to wait for the interval. He thinks that the question of immediate *versus* later operation in complicated cases will never be fairly settled until some competent surgeon has the opportunity to treat in some one modern hospital a large number of appendicitis cases. This number should be at least five hundred, better one thousand. If, in these cases only the conservative or waiting policy, and then on a like number the radical treatment were tried, conclusions of value could be drawn. Or, two competent men could make the same comparison on the same number of cases under as nearly as possible the same circumstances and surroundings. The writer concludes by speaking of some of the technical details of the operation.

4. **Comparative Treatment of Intestinal Amebiasis.**—Moulden emphasizes the uselessness of any but a direct method of attack on the affected areas in the lower bowel in amebic dysentery. In his work, in which he tested the effect of weak solutions of copper sulphate on active amebas in fresh stools, he became convinced that this drug in solutions of a strength of one to ten thousand has a decidedly lethal action on the parasite, arresting its motility and causing a shrinkage of the cell protoplasm. Before the copper instillation is given, the colon is thoroughly

irrigated through a double-flow tube with sterile water until the return is perfectly clean. The instillations are given twice a day. The copper seems to have a more or less selective action on *Amœba coli* as well as on the lower forms of vegetable life. Copper solutions are far better borne by the patients than quinin. Recovery is more rapid under its use than under any other method known to the writer. The patients stay cured if the treatment is kept up for a reasonable time after the disappearance of the amebas from the stools.

6. Action of Drugs on Systemic Oxidation.—Oettinger believes that a methemoglobinemia of non-toxic proportions may exist, and hence that this blood condition must not invariably be regarded as deleterious to conservative metabolism. He shows that good comes to a patient from slight methemoglobinemia, effecting an increased oxidation of a selective character. This is an oxidation through methemoglobin of intermediate products of metabolism, which in diseased conditions accumulate in abnormal amounts in the blood, but which, at the same time, is an oxidation without effect on the normal tissues. Therapy makes use of this blood change to aid in conservation of nutrition. In connection with the foregoing hypothesis Oettinger advances a second to explain rationally the concomitant use of another class of drugs, whose relation to systemic oxidation is opposed to those already mentioned. Quinin, arsenic, phosphorus, iron, and strychnin are used in both acute and chronic diseases. The first three are given individually, under widely different indications. Their concomitant use, he believes, is due to the fact that they have in common the property of retarding tissue oxidation. In disease, regressive metabolism is always increased. Against such increased catabolic tissue oxidation the use of a drug which retards oxidation must be valuable. Thus is explained the simultaneous use of drugs to effect concurrent retardation and stimulation of oxidation.

St. Louis Medical Review.

July 14.

7 Surgery of Biliary Tract (to be continued). M. H. Richardson, Boston.
7½ Division of Fees. E. S. McKee, Cincinnati.

July 21.

8 Surgery of Biliary Tract (continued). M. H. Richardson, Boston.
8½ Paraplegia. F. B. Hall, St. Louis.

New York Medical Journal.

July 28.

9 *Ocular Factors in Etiology of Spinal Curvature. H. A. Wilson, Philadelphia.
10 Frontiers of Death in Surgery and the Question of Operation in Extremis. C. G. Cumston, Boston.
11 *Possibility of Development of Cancer in Cervical Stump Following Supravaginal Hysterectomy. A. F. Currier, Mount Vernon, N. Y.
12 *Maxims for Selection of Climate in Pulmonary, Laryngeal and Bone Tuberculosis. S. A. Knopf, New York City.
13 *Should Cold Baths Be Given for Fever in Young Children? C. O'Donovan, Baltimore.
14 Albuminuria, Cylindruria and Bright's Disease. S. J. Meltzer, New York City.
15 Diseases of the Digestive Organs in the Pathogenesis of Arterial Hypertension. G. W. McCaskey, Fort Wayne, Ind.
16 *The High-Frequency Spark in the Treatment of Premature Alopecia. G. M. MacKee, New York City.

9. Ocular Factors in Etiology of Spinal Curvatures.—Wilson discusses the relations that exist between certain forms of acquired spinal distortions and postures of the head in using the eyes, whether occurring alone or in conjunction with other recognized cause of scoliosis. He says that in the prophylaxis of scoliosis there is a large field that must carry the investigator into the school life of children and the almost universally faulty postures, whether induced by school furniture or by erroneous positions in writing, or by errors of refraction. The orthopedic surgeon should direct the use of such remedial measures as have been determined as best adapted to securing full normal function and to re-establishing verticality. To accomplish the prevention of scoliosis the necessity for the early resort to the orthopedic surgeon should be strongly urged on the general practitioner and parents.

11. See JOURNAL, June 23, page 1967.

12. Selection of Climate in Tuberculosis.—The maxims laid down by Knopf, 12 in number, are too lengthy and detailed to permit of being abstracted in the form which would be of any service to the reader, who is, therefore, referred to the original article.

13. Cold Baths for Fever in Children.—In spite of admitted drawbacks to this method of treatment, O'Donovan advises the use of cold baths, in children, even infants, whenever the high fever and flagging powers point to the possibility of an impending collapse; and the child is to be tubbed not once only, but whenever the same symptoms return in sufficient severity to call for such treatment. His opinion is based on clinical results. He suggests that in the convulsions of young children the proper treatment should be a cold rather than a hot bath to reduce the fever, which often is found to exist when the rectal temperature is taken, and to calm the over-excited nervous system of the child. As every child may not be able to stand the severe shock of a cold bath, O'Donovan advises that the physician himself give the first bath, or stand by while it is being given, to note its effect on the child. Terror and fright, even manifest physical suffering from the cold, are not bars to its usefulness. Cyanosis and failure to respond to the shock by crying and struggling are signs of evil to be looked for and feared. Under these circumstances the bath must be stopped, the child wrapped in blankets, and stimulated with whisky or digitalis. The length of time to keep a child in the bath is to be judged by its effect on the patient and the result aimed at. A short dip suffices for a stimulating shock, whereas three or four minutes may be required to check a high and rising fever.

16. High Frequency Spark in Alopecia.—According to MacKee, the beneficial action of the high frequency spark is twofold, stimulating and bactericidal. Its prime action in the treatment of alopecia rests in its power to produce a vasomotor dilatation, causing a physiologic hyperemia lasting for several hours. During the period of hyperemia the hair follicles receive an increased blood supply and increased resistance to germ invasion is established. The bactericidal property of the spark is powerful and penetrating. This effect is produced by the actinic rays, by the heat effects, and also by the production of large quantities of ozone. The most important object of the treatment is the production of the hyperemia, and unless the treatment is of sufficient length and strength to produce this reaction, very little will be accomplished. MacKee reports nine cases to show the effect of the treatment on the various forms of alopecia. Usually the quickest results are obtained in alopecia of nervous origin. The rapidity of the cure depends on the extent of the bald patches and the ease with which the hyperemia is produced. The apparatus employed and the technic are described in detail.

Boston Medical and Surgical Journal.

July 28.

17 The General Practitioner and the Specialist. J. L. Hildreth, Cambridge, Mass.
18 Treatment of Tuberculosis of Bones and Joints. J. E. Goldthwait, Boston.
19 *Diagnostic Significance of Decidual Tissue. W. P. Graves, Boston.
20 Medical Department of Japanese Army. C. Lynch, U. S. A.

19. Diagnostic Significance of Decidual Tissue.—As the result of study of a number of cases, Graves concludes that the passage of a decidual membrane in a patient with symptoms of pregnancy and with a mass on one side, together with a history of flowing, is extremely significant of an extrauterine pregnancy, but that cases do occur in which this seemingly conclusive chain of evidence is not proof of an extrauterine gestation. An ordinary miscarriage may be preceded by the exfoliation of a part or the whole of the decidua vera. Extreme care should be observed by the pathologist in making a diagnosis, because it may be impossible to differentiate between an exfoliated dysmenorrheic membrane, and the decidua of an extrauterine pregnancy. The pathologist before committing himself to a diagnosis should insist on knowing accurately the history of the patient.

Lancet-Clinic, Cincinnati.

July 28.

21 Principles of Serum Therapy. H. G. Graham, Bellwood, Neb.
22 Medical Weeds. E. S. McKee, Cincinnati.

American Medicine, Philadelphia.

July.

23 *Penetrating Wounds of Abdomen. C. E. Caldwell, Cincinnati.
24 Two Cases of Tropical Aphtha (Sprue). H. F. Harris, Atlanta, Ga.
25 *Limitations to Eradication of Tuberculosis. C. Denison, Denver.
26 *Acute Glaucoma Following Instillation of Several Drops of Adrenalin in a Cataractous Eye. A. Brav, Philadelphia.
27 Efficiency of Copper Foil in Destroying Certain Bacteria in Water. W. H. Buhlig, Chicago.
28 Otitis Media as a Complication or Sequel of Scarlet Fever. C. C. Biedert, Philadelphia.
29 *Pneumonia Complicating Pregnancy. J. A. Wessinger, Ann Arbor, Mich.
30 Municipal Control of Tuberculosis. W. M. L. Coplin, Philadelphia.

23. Penetrating Wounds of Abdomen.—Caldwell reports nine cases of penetrating wounds of the abdomen, and one case of traumatic rupture of a congenital cystic kidney. Of the former, all the patients recovered except two, who died from hemorrhage, one dying on the table, and the other three days after the first operation. The method of operating and the complete history of each case is described fully, but without comment.

25. Eradication of Tuberculosis.—Denison maintains that the general government should determine the unhealthy limits to air ventilation in living, sleeping, school and working rooms, in order that the *per capita* space necessary for health may be known as a basis of future legislation. With reference to the improvement of the future progeny of the human race, competent education should be provided for the young on the laws of health; and before marriage on the healthful selection of mates, and the baneful results of bad heredity. The greatest need of education is among those chosen as legislators, who are to frame the laws governing the hygiene of homes and of schools; the buildings of workshops, theaters and tenements; the safeguarding of the young and dependent in industrial works; or the limiting of childbearing to the healthy and fit.

26. Acute Glaucoma Following Instillation of Adrenalin.—The patient whose case is recited by Brav was a woman fifty years old, rather ill-nourished and very nervous. Three hours after a physician had instilled several drops of a solution of adrenalin, the woman began to feel severe pain in the eyeball, radiating to the frontal and down the superior maxillary region. The pain was so severe that a hypodermic of morphin had to be given. Brav found the eyeball inflamed, marked ciliary injection, cornea hazy, pupil dilated, immobile, anterior chamber practically obliterated, eyeball very hard with tension + 3. After extraction of the cataractous lens, recovery was uneventful. Brav advises against the use of adrenalin in the case of elderly people, even when they are suffering from only a superficial inflammation, in cataractous eyes, in glaucoma, in corneal and deep-seated inflammations, and in superficial inflammation of the conjunctiva.

29. Pneumonia Complicating Pregnancy.—Wessinger reports the case of a woman who was suddenly taken ill with pneumonia. She was in the eighth month of pregnancy. Dyspnea and respiratory embarrassment became marked. Labor began on the evening of the third day of the illness, and the patient was delivered with forceps of a dead child as rapidly as possible. The mother died on the following day. The case occurred in the practice of another physician. Wessinger has had one case in his own practice at seven and a half months. The temperature range in this patient was below that usually present in pneumonia. Only during a period of thirty-six hours did the temperature reach 103 F. On the fourth day the temperature was normal. No rusty sputum was noted after forty-eight hours from the time of its first appearance on the third day of the illness. One month afterward the patient was delivered of a healthy five-pound child.

Annals of Surgery, Brooklyn.

July.

31 *Hypertrophic Stenosis of the Pylorus in Infants. A. L. Fisk, New York.
32 Primary Sarcoma of the Omentum. F. Cobb, Boston.
33 *Surgical Aspects of Anuria. C. G. Cumston, Boston.
34 *Retroperitoneal Perirenal Lipomata. E. Reynolds and R. G. Wadsworth, Boston.
35 False Diverticula of the Vermiform Appendix. M. G. Seelig, St. Louis.
36 *Clinical Experiences with Meckel's Diverticulum and Other Vestiges of the Omphalomesenteric Duct. J. B. Roberts, Philadelphia.
37 *Method of Anastomosis of the Vasa Deferentia. G. F. Lydston, Chicago.
38 *Extraperitoneal Ligature of External Iliac Artery for Aneurism. J. A. Nydegger, U. S. M. H. S.
39 *Wyeth's Method of Hemostasis in Amputation at the Hip and Shoulder. T. H. Hancock, Atlanta, Ga.
40 Wrist Resection by the Lateral Incision. Stewart L. McCurdy, Pittsburg.
41 *Use of a Steel Comb for Dissection in the Axilla. H. A. Kelly, Baltimore.
42 *Postoperative Comfort. W. G. LeBoutillier, New York.

31. Stenosis of Pylorus in Infants.—According to Fisk, the total number of cases of hypertrophic stenosis of the pylorus in infants operated on is 71. Of these, 38 recovered and 33 died, giving 53.53 per cent. recoveries and 46.47 per cent. mortality. Gastroenterostomy was performed 42 times; 24 patients recovered and 18 died, a mortality of 42.56 per cent. Pyloroplasty was performed 11 times, with 6 recoveries and 5 deaths, a mortality of 45.46 per cent. Of the fatal cases, one patient survived the operation five weeks, and another ten weeks. Figuring on the latter basis, the mortality would be only 27.28 per cent. Eighteen patients were operated on by divulsion, with 9 recoveries and 9 deaths. One of the patients who recovered had to have a secondary gastroenterostomy performed three weeks later. If this case was considered as a failure, as it certainly would have been, the mortality is 55.55 per cent. There was one case of pylorectomy in which the patient died. Fisk says that gastroenterostomy appears to be the operation of choice, either the anterior or the posterior method. In infants the operation should be done by suturing the parts together. It is Fisk's opinion that preference should be given in selected cases to pyloroplasty, as it is physiologically, anatomically, and surgically the more correct procedure. Early diagnosis and early operation, before the infant has had an opportunity to lose much weight, or has become greatly emaciated and enfeebled so that its reparative power is greatly reduced or lost, is more essential to a successful outcome of surgical treatment than the method of operation, other things being equal.

33. This article appeared in the *American Journal of Eurology*, July, 1906.

34. Retroperitoneal Perirenal Lipomata.—Reynolds and Wadsworth report a case of large retroperitoneal lipoma of perirenal origin occurring in a woman, 38 years of age. The operation, which was conducted on anatomic lines, proved successful. The entire mass removed weighed nearly 15 pounds.

36. Meckel's Diverticulum and Other Vestiges of the Omphalomesenteric Duct.—Roberts' observations of these congenital anomalies are limited to the following instances: (1) A Meckel's diverticulum on the mesenteric side of the ileum, arising from the ileum a few inches above its entrance into the cecum. The diverticulum was an inch and a half long, and was connected with the gut at its mesenteric border, being attached to the mesentery or developed on it. It did not cause any disturbance. (2) Fatal strangulation of the intestine by a cord consisting of obliterated omphalomesenteric vessels. The autopsy showed a loop of bowel encircled by a thin cord of fibrous tissue, about 13 centimeters long, which extended from the front wall of the abdominal cavity to the mesentery above the point of strangulation of the bowel. From another part of the bowel hung a pedunculated mass 4.5 centimeters long. The cord ran through an opening in this appendage, which had no lumen, as through a pulley. (3) Strangulation of the ileum by a Meckel's diverticulum occurring in a boy, 4½ years old, with a history of unrelievable intestinal obstruction. About three feet from the ileocecal valve a slender diverticulum of the ileum was found. Its end was a fibroid cord attached to the abdominal wall near the umbilicus. The structure was distended at its middle into a sac. Between this sac and the ileum there was a patent tube lined with mucous membrane. The ileum a short distance from the point of origin of the diverticulum was tightly strangulated. (4) The diverticulum in this case was discovered at an autopsy. It was about four inches long, and at its origin was about the size of the ileum. It was situated about two feet from the ileocecal valve. Its ex-

istence was not the cause of death. (5) While operating on a very large umbilical hernia, Roberts found among the intestines, in the sac, a translucent tumor as large as a pea. It had a long thread-like translucent pedicle, descending into the abdomen. Its lower attachment was not revealed. It was a myxoma, covered by epithelium, and the pedicle contained a single artery and vein, but no nerve fibers. It was believed that these structures might have been the remains of the omphalomesenteric vessels which had become free at the umbilical end, and had been transformed into the pedunculated tumor.

37. This article was published in THE JOURNAL, July 21, page 169, and also in the *Chicago Medical Recorder*, July 15.

38. **Extraperitoneal Ligature of External Iliac Aneurism.**—In the case reported by Nydegger, the aneurism was of only two months' duration. It was situated in the left groin, and it was about four inches long and about three inches and a half wide, extending well up beneath Poupart's ligament. A straight incision was made, beginning immediately to the outer side of the external abdominal ring, about an inch above Poupart's ligament, and terminating on a level with, but about two inches internal to, the anterior superior spinous process of the ileum. The peritoneum was pushed upward and backward, and held there by blunt retractors. A number of enlarged glands were worked aside with the fingers, and the areolar tissue forming the sheath over the vessels was scratched through by the same means. A heavy kangaroo tendon was carried around the middle third of the vessel and secured by combined reef-knot and surgeon's knot. The pulsation in the aneurism ceased at once. The wound was closed with chromicized catgut ligatures. The leg was swathed in cotton and lightly bandaged, and a long lateral splint applied. Hot-water bottles were kept to the leg for two days. The stitches were removed on the sixth day. The swelling decreased in size and appeared firm and completely organized between the third and fourth week.

39. **Wyeth's Hemostasis in Amputation.**—Hancock reports two cases, one an amputation of the hip, and the other a double amputation of the hip and shoulder, in which Wyeth's method of hemostasis was employed with marked success. The two cases are also interesting from the fact that only a very slight shock followed an unusually severe injury in both instances. Hancock attributes this to early operation, one patient being seen half an hour after the accident, and the other an hour after it.

41. **Steel Comb for Dissection.**—For three years past Kelly has made use of a steel comb in cases of breast cancer in making the axillary and subclavicular dissection. The little instrument has also proved of value in skeletonizing the vascular trunks near their points of origin from the larger trunks for the purpose of ligation. The length of the comb is 19.5 centimeters. The end is made of little steel prongs about one centimeter long, terminating in a fine rounded point. The instrument is curved at its end. It usually has from four to six prongs, and resembles somewhat the so-called "scratch-my-back."

42. **Postoperative Comfort.**—The points of change in the usual plan mentioned by Le Boutillier referred to relieving thirst and pain, procuring more rest, stimulating more freely, feeding more and earlier, and the posture of the patient. At the conclusion of an operation of any extent the patient receives at once an enema of hot saline solution, to which half an ounce to an ounce of whisky is added if there is any shock. This is repeated every three hours, until there is no thirst or the stomach is able to retain fluids and nourishment, or the pulse is of good rate or quality. The amount given varies from a pint to six ounces at each time. Beginning five or six hours after anesthesia is suspended, fluid by the mouth is allowed in moderate and soon in almost unlimited quantities. In order to increase the general resistance, early free stimulation is employed. Subcutaneous injections of strychnin, repeated every three hours, are usually given for twelve to twenty-four or even thirty-six hours, after which the drug is given by mouth until the patient's general condition is satisfactory. When there is a probability that there will be much pain, morphin is given before the effects of the anesthetic has passed off. It is repeated in sufficient doses to keep the patient comfortable. No attempt is made to have the bowels move by a time-table merely because the patient has had an operation. At the expiration of from thirty-six to forty-eight hours an enema is given, preceded by some mild laxative, if desired, or a laxative alone is given. The position of the patient is changed frequently when mechanical conditions permit it. The head and upper part of the body are raised slightly with a back-rest. Backaches and tender spots from pressure are very much diminished in frequency and in intensity. A sufficiently firm abdominal bandage should be used in laparotomy cases. When applying dressings at the close of an operation it is wise to think of how they are to be removed. When gauze is stuffed into a wound, its removal should be effected under an anesthetic, or delayed until it has been loosened from the tissues with which it is in contact. The plan for a new dressing should be prepared before any part of the old one is disturbed. These patients should sleep a good deal, and no attempt should be made to arrange the after-treatment, so that the patient is disturbed at frequent intervals for various purposes. Rest and sleep (the latter secured by drugs, when necessary) favor recovery. Long staying in bed is not resorted to unless the patient is feeble. It is of the utmost importance to adapt the treatment to the individual case.

Chicago Medical Recorder.

July.

42 *Method of Anastomosis of the Vasa Deferentia. G. F. Lydston, Chicago.
44 Points in Surgical Technic. J. C. Webster, Chicago.
45 General Symptoms of Apoplexy. D'O. Hecht, Chicago.
46 *Cases Where Reflex Symptoms Were Proven Not to Be Reflex. E. Ries, Chicago.
47 Neurasthenia: Prognosis and Its Relations to Medical Selection. T. H. Wiggin, Chicago.
48 Contract Practice. J. A. Dawson, Chicago.
49 Present Status of the Proposed Business Bureau of the Chicago Medical Society. G. de Tarnowsky, Chicago.

43. See No. 37, this issue.

46. **Reflex Symptoms not Reflex.**—Ries reports four cases sent to him for gynecologic operations under varying diagnoses and where the operation proved the independence of the symptoms from gynecologic diseases to which they had been ascribed. The first patient, a woman, aged 39, was brought for operation for ovarian and uterine tumors, which supposedly had given rise, reflexly, to gastric irritation. On careful examination the gall bladder was found to be sensitive, although it could not be palpated, which led Ries to conclude that the patient's stomach trouble was due to gallstones. The patient refused two operations, so that Ries merely removed the tumors. During the operation he palpated the gall bladder and discovered a stone in the cystic duct, but did not interfere. The patient recovered from the operation and a week after it had another pain. She has now decided to have the gallstones removed. The second patient, 28 years of age, was sent in to be operated on for lacerated perineum, lacerated cervix, and enlarged uterus, which, according to the idea of the family physican, caused stomach trouble. The stomach cramps proved to be gallstone symptoms, and forty odd gallstones were removed. The patient made a good recovery and has had no further cramps.

The third case was one of double ovarian tumor, fibroids and tuberculosis of the left tube. The tumors were so large that they could easily be felt through the abdomen. There was some abdominal pain radiating to the stomach. The family physician ascribed these pains to the tumors, which he wanted removed. On examination, the gall bladder was palpable and sensitive to pressure. A diagnosis of gallstones was made and at the operation a solitary egg-shaped stone was removed. The tumors were also removed and the patient is doing well. The fourth case was that of a woman, 49 years of age, who was sent to be operated on for a lacerated cervix, lacerated perineum, and a retroversion of the uterus, which caused reflex pain in the stomach. Careful questioning elicited a good history of gallstones. The gall bladder was removed and found to contain 16 stones. Nothing further was done. The patient made a good recovery.

Illinois Medical Journal, Springfield.

July.

50 Popularization of Medicine. H. C. Mitchell, Carbondale.
51 Progress in Serum Therapy During the Year Ending June 21, 1906. E. R. Larned, Chicago.

52 Treatment of Compound Fractures. E. H. Ochsner, Chicago.
53 Hydatidiform Mole, with Report of Seven Cases. G. C. Wales, Chicago.
54 Prognosis and Treatment of Cerebral Apoplexy. J. Grinker, Chicago.
55 Cerebral Localization in Apoplexy. S. Kuh, Chicago.

The Fort Wayne Medical Journal-Magazine.

July.

56 Lobar Pneumonia: Early Diagnosis and Treatment. J. H. Gilpin, Fort Wayne.

The Physician and Surgeon, Detroit.

June.

57 Practical Discourse to Embarking Physicians. F. B. Walker, Detroit.
58 Lessons in Longevity. J. S. Caulkins, Thornville, Mich.
59 Experience with Static Electricity. N. A. Gates, Dexter, Mich.

The Philippine Journal of Science, P. I.

July.

60 Philippine Fibers and Fibrous Substances: Their Suitability for Papermaking. G. F. Richmond, Manila.
61 Combating Plague in Japan. S. Kitasato, Japan.
62 Observations on the Epidemiology of Dysentery in Japan. K. Shiga, Japan.
63 Consideration of Ball's Recent Views of the Study of Immunity and a Comparison of the Value of Protective Inoculation with Aggression with that of Vaccination in Plague. R. P. Strong, Manila.
64 A Study of Blood in Dengue, with Particular Reference to the Differential Count of the Leucocytes in the Diagnosis. E. R. Stitt, Canacao.
65 Observations on Malaria: Latent Infection in Natives of the Philippine Islands—Intracorpuscular Conjugation. C. F. Craig, Camp Stotsenberg.
66 Tropical Febrile Splenomegaly. P. G. Wooley, Manila.
67 Amebiasis: Its Association with Other Diseases, Its Complications and Its After-Effects. W. E. Musgrave, Manila.

Annals of Ophthalmology, St. Louis, Mo.

April.

68 Case of Epithelioma of the Ocular Conjunctiva of Unusual Size. J. E. Jennings, St. Louis.
69 Persistent Hyaloid Artery in Both Eyes—Unusual Variety in One Eye. W. T. Shoemaker, Philadelphia.
70 Amaurosis Following Acute Anemia from Hemorrhage. V. Carlini, Livorno.
71 Dionin in Ophthalmic Practice. J. Hinshelwood, Glasgow.
72 Sixty-three Cases of Descending Optic Neuritis, Probably the Result of Pneumococcal Infection. F. H. Napier.
73 Pyemia, Orbital Cellulitis and Death Following Use of Mesotan. E. B. Coburn, New York.
74 Bilateral Gumma of the Orbits in Child of Eight Years. F. C. Parker, Norristown, Pa.
75 A Case of Homatropin Poisoning. S. Brown, Philadelphia.
76 Astigmatic Accommodation: a Study of Its Relative Frequency in Fifty Cases with Marked Asthenopic Symptoms. O. Wilkinson, Washington.
77 Field of Fixation and Methods of Measuring It. L. Howe, Buffalo.
78 Inflammation of Eyes Due to Infection from Hay Fever Conveyed by Tobacco Smoke, with Report of Cases. J. W. Wright, Columbus, Ohio.

Medical Sentinel, Portland, Ore.

July.

79 The Increasing Mortality from Pneumonia. C. E. Hill.
80 Reproduction of Bone After Operation for Necrosis. W. J. May, Baker City, Ore.
81 The Physician's Duties. D. Campbell, Butte, Mont.
82 The Character of the Recent Typhoid Epidemic in Eugene. W. L. Cheshire, Eugene.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

July 14.

1 Mendelian Heredity and Its Application to Man. W. Bateson.
2 *Enucleations of the Prostate. W. Thomson.
3 *Total Laryngectomy for Recurrent Epithelioma of the Larynx. S. White.
4 *Appendicitis and Abscess Formation. J. D. Malcolm.
5 *Three Cases of Gastrojejunostomy. F. C. Wallis.
6 Relation of Ulcerative Colitis to Dysentery. A. E. Carver.
7 *Effect of X-Rays on Leucocytes in the Blood and Bone Marrow in Leukemia. R. J. M. Buchanan.
8 Case of Lipoma of the Pericardium. M. V. McKechnie.
9 Case in which Large Quantities of Dipterous Larvæ were Passed per Anum. C. H. Cattle.
10 Report of Special Chloroform Committee of British Medical Association.

2. Enucleation of the Prostate.—Thomson reports 18 cases of enucleation that he has done since 1902. This does not include cases in which he has explored the bladder by the superior incision, or established a fistula when the patient's condition was so bad, or the age so advanced that it would have been a fatal procedure to carry out enucleation; or cases of malignant disease; nor does it include one case of prostatic obstruction with no palpable evidence of enlargement. Nine patients were over 70 years of age; the youngest was 54, and the oldest 76. Two of the tumors were very large—6¼ ounces, and 10 ounces, respectively; three came away in one mass, including the prostatic urethra. The immediate and remote results did not differ from those following enucleation of the lobes separately. There have been no disagreeable after-results. Four of the patients died, one of gangrene of the lung, twelve weeks after the operation. In the last ten cases there was a deposit of phosphates on the edges of the wound in three instances. In the instances in which there was no appearance of it, Thomson noticed that there was not any preceding chronic cystitis, and the patients responded satisfactorily to preliminary treatment. He has had the most satisfactory results from the use of benzoate of soda, in 10-grain doses, with a dram of tincture of buchu, three or four times a day. But with this must be associated copious flushing of the bladder with boric solution. First, he flushes through the upper wound, then he passes into the urethra a glass nozzle about three or four inches in length. This is attached to an irrigator and the bladder is then flushed thoroughly. One of the fatal cases occurred as the result of infection of the deeper parts of the space of Retzius. Death occurred on the twenty-third day. One patient died of ether bronchitis, he was aged 75, and suffered from mitral disease. Another died fourteen days after operation from a suddenly developed peritonitis, and the fifth died in twenty-four hours from sepsis.

3. Laryngectomy for Epithelioma of Larynx.—White reports the case of a man aged 64, who had an extensive warty growth on one of the vocal cords. The growth was removed after mesial section of the thyroid. The patient made a rapid recovery, but soon afterward began to suffer from a slowly increasing laryngeal stenosis, for which a tracheotomy was performed later. His condition became so bad that a total laryngectomy was advised and carried out. The only serious annoyance he experienced after the first few days was due to the collection of inspissated mucus in the tracheal opening during the hours of sleep. This difficulty ceased after a few weeks, and now, six months after the operation, the patient is in excellent health, can swallow perfectly, and has no respiratory difficulty, although he has not worn a tube since the operation. Most remarkable of all, he can carry on a conversation in a loud sibilant whisper.

4. Appendicitis and Abscess Formation.—Malcolm reports two cases of appendicitis which simulated abscess of the ovary in their symptomatology.

5. Gastrojejunostomy.—In the case of the first patient whose history is reported by Wallis, a posterior gastrojejunostomy was done for obstruction of the pylorus. The patient, a woman, aged 91, made a good recovery, but died of cerebral thrombosis about nine months after the operation. The second patient, a man, aged 57, had a tumor of the stomach involving the lesser curvature and extending to the pylorus. Owing to the extremely bad condition of the patient the stomach was not removed, and a gastrojejunostomy was done. One month after the operation the abdomen was opened again and the stomach pulled forward. It was seen that the growth had disappeared to a great extent. The wound was closed. Two months after this operation the patient was well and healthy. The third patient, a woman, aged 39, had an extensive growth, considered to be malignant, occupying the cardiac end of the stomach. A posterior gastrojejunostomy was done, but death ensued twelve hours later from hemorrhage coming from an oval opening in a large vessel running along the floor of the ulcer.

7. Effect of Roentgen Ray on Leucocytes in Leukemia.—Buchanan is of the opinion that there is evidence to show that the action of the Roentgen ray in leukemia is of a twofold character: (1) by inhibiting over-production in the marrow, and (2) by a destructive influence over the leucocytes themselves. This effect is especially noticeable in the cell structures which respond normally to basic dyes, less so in those which respond to acid dyes. Further evidence is afforded by the fact that the myelocytosis recurs rapidly when the *x*-ray treatment is discontinued.

The Lancet, London.
July 14.

11 Dendrites and Disease. W. R. Gowers.
12 *Stuttering. W. S. Colman.
13 *Microbic Cyanosis. G. A. Gibson and C. C. Douglas.
14 *Treatment of Surgical Tuberculosis. V. W. Low.
15 Eye Strain and Its Symptoms. J. Hinshelwood.
16 *Origin of Choanal Polypi. G. Killian.
17 Buboes and Their Significance in Plague. W. Hunter.
18 *Epidermolysis Bullosa. A. F. Savill.
19 *Fracture of Upper End of Tibia from Indirect Violence. R. Lawford Knaggs.
20 Clinical Viscosimeter. A. D. P. Denning and J. H. Watson.
21 *Five Cases of Renal Neoplasm. D. Wallace.

12. **Stuttering.**—According to Colman, the main objects of the treatment of stuttering should be (1) The removal of the shallow, ill-managed respiration so frequently present in stutterers; (2) the stutterer must be taught to speak from a well-filled chest; (3) he must be taught to speak with a resonant and modulated voice instead of the low muttering intonation he usually adopts; (4) he must learn to speak slowly and distinctly, making all the consonants clear. This must be continued until the improved mode of breathing and of using his voice has become habitual to him. Whenever the means of the patient permit, instruction should be carried out by the medical man himself, or by some experienced teacher under his direction.

13. **Microbic Cyanosis.**—Gibson and Douglas report the case of a woman, aged 36, who had suffered for some years from headaches, weakness, attacks of dizziness and faintness. The tint of the skin had assumed a distinctly cyanotic appearance. For some time there had been a considerable tendency to diarrhea and this was frequently accompanied by general gastric as well as enteric disturbance. The erythrocytes numbered less than 4,000,000; the hemoglobin amounted to 70 per cent.; the leucocytes numbered over 10,000. The blood was otherwise normal, presenting only the features of a secondary anemia. Physical examination was negative. A bacteriologic examination showed a pure culture from the blood of *Bacillus coli communis*, so that the condition belongs to the group of affections often termed false cyanosis.

14. **Treatment of Surgical Tuberculosis.**—Low advocates open air treatment, increasing the patient's power of resistance, the use of Koch's new tuberculin when there is no evidence of an excessive autoinoculation, otherwise absolute rest with complete fixation of the diseased part, improvement of the circulation through the diseased area, and when necessary removal of the dead inert material under the most scrupulous aseptic precautions.

16. **Choanal Polypi.**—Killian reports the results of his observation of 22 cases of so-called choanal or benign nasopharyngeal polypi. In structure these polypi hardly differ from the ordinary nasal polypi. They usually do not recur after removal. Killian thinks that these polypi take their origin within the cavity of the maxillary antrum. For observation on the antral origin of these polypi he recommends that their extraction be carried out with the cold snare. The polypus is then torn out and the length of that part of the stalk lying inside of the antral cavity may be determined with exactitude. On one occasion he saw the torn stalk project out of the accessory antral opening. In another case the remains of the stalk within the antrum could be seen by means of a small mirror introduced into the middle meatus.

18. **Epidermolysis Bullosa.**—Savill reports two cases that occurred in the same family, the patients being a brother and sister, both having suffered all their lives from the formation of bullæ.

19. **Fracture of Upper End of Tibia, from Indirect Violence.**—In the instance reported by Knaggs, a bag of chicory weighing 140 pounds, fell from a height of forty feet and struck the man on the back of the head. He happened to be facing a wall, and the impact knocked him against it in the kneeling position, but not before he was able to raise his hands to protect himself from being dashed against it. He was not knocked down. As soon as he tried to walk, he felt pain below the knee. On examination there was some swelling, much tenderness, crepitus, but no deformity. An *x*-ray picture was taken. It showed that the inner tuberosity was split off obliquely from the head of the tibia, tearing with it not only the internal articular facet, but also the spine. In the fibula the styloid process had been separated. There was no misplacement of the parts. The treatment consisted in the application of a back splint, with a foot-piece, and passive movement. Ten weeks later the patient had a freely movable joint and an apparently sound limb.

21. **Renal Neoplasms.**—In the first four cases reported by Wallace, hematuria was the first symptom in each; in fact, no other symptom was complained of. In three the bleeding was very profuse and had the characters of vesical hemorrhage. In one case the bleeding was small in quantity, although the tumor was a large one, replacing nearly the whole of the renal substance. In only two cases were worm-like clots observed and in one of these not until months after the onset of the bleeding. In none of these were tumor cells or casts discovered in the urine.

The Practitioner, London.
July.

22 *The Treatment of Sleeplessness. W. Broadbent.
23 The Distribution and Treatment of Epithelioma of the Lower Lip. G. L. Cheatle.
24 Causation and Treatment of Headaches. H. C. Thomson.
25 *Headaches of Renal Origin. R. Saundby.
26 Intracranial Disease as a Cause of Headache. J. Taylor.
27 Migraine and Toxemic Headaches. W. Harris.
28 Eye Strain as a Cause of Headache. W. H. Jessop.
29 *Headache of Nasal Origin. H. L. Lack.
30 Myomectomy. P. Horrocks.
31 *Fronto-Ethmoidal Sinusitis. St. C. Thomson.
32 Opsonic Factors; Their Estimation and Use in Therapeutics. R. E. French.
33 Bronchitis and Bronchopneumonia. C. H. Cattle.
34 *Afebrile Typhoid Fever. J. P. Parkinson.
35 Etiology of Eczema. J. M. H. MacLeod.
36 *Simple Operation for Hemorrhoids. R. M. H. Randell.

22. **Treatment of Sleeplessness.**—The form of sleeplessness considered by Broadbent is that which is the chief, if not the only, symptom of which the patient complains, and not that which is an incident of disease. When the blood pressure is high, and causes sleeplessness, he states that chloral is indicated. A cold bath or tepid or cold sponging is effective when sleeplessness is due to very low blood pressure. In low tension sleeplessness a cardiovascular tonic is the best remedy, although very frequently a teacupful of strong hot beef tea will send the patient to sleep at once. Beef tea is better than milk, as imposing less work on the stomach. One of the first things to be done in a case of sleeplessness is to inquire carefully and thoroughly into the state of the digestion. Any derangement which may be discovered must be rectified. When sleeplessness is caused by fermentation in the stomach and intestinal canal, intestinal antiseptics, such as salol, and the sulphocarbolates, may be given, not forgetting calomel or other mercurials. In old age, remedies of the chloral group are less to be relied on than opium, and a dram or two of compound tincture of camphor, or a grain of opium, with sufficient colocynth and hyoscyamus to prevent constipation, may be given every night. In the young such preparations as sulphonal, trional, and veronal, he states, are doing incalculable harm. Chloral or paraldehyd are preferable. It is well to avoid opium.

25. **Headaches of Renal Origin.**—Saundby advises that the treatment of renal headache must be that of Bright's disease, but the symptom formally indicates the need for light nitrogenous diet, purging and vapor baths. The occasional improvement of a headache after an accidental hemorrhage, has suggested the value of bleeding. A remedy which rarely fails to give temporary relief is the effervescent powder of phenacetin and caffein of the B. P., but it may need the addition of five or more grains of phenacetin to each dose of the powder.

29. **Headache of Nasal Origin.**—Lack calls attention to the fact that while it is impossible to make any exact statement as to what forms of headache are due to nasal trouble, or to exclude disease of the nose as the cause of the pain from its particular character or site, it is necessary to emphasize the fact that headaches may be due to disease of the nose, although obvious symptoms of nasal disease may be absent, and there may be nothing in the patient's statement to draw attention to the true cause.

31. **Frontoethmoidal Sinusitis.**—Thomson reports three cases in which spontaneous evacuation took place in the region of the orbit. The first case was one of influenza, the patient having

an abscess at the inner canthus of the left eye, with symptoms of suppuration in the left frontal, ethmoidal and maxillary sinuses. The second case was one of frontal sinusitis with abscess over the sinus. An incision was made which was followed by the free escape of pus containing the *Micrococcus catarrhalis* in pure culture. The sinus was opened and drained through the anterior wall. The third case was one of chronic multi-sinusitis, with acute frontoethmoidal exacerbation. An extensive operation was necessary in this case. All the patients recovered.

34. **Afebrile Typhoid.**—Parkinson reports three instances of typhoid in which fever was of very short duration, and one case which terminated fatally showed that though the febrile period was short, the local process in the bowel went on to ulceration and even to perforation.

36. **Operation for Hemorrhoids.**—The operation employed by Randell on more than 300 cases may be described briefly as follows: After the usual preparatory treatment, the patient is anesthetized. The hemorrhoids are seized with forceps and ligated as tightly as possible close to their bases with stout catgut, or if too large, they are transfixed and tied in two portions. They are then cut off with scissors so close to the ligatures that the latter fall off. This completes the operation. A morphin suppository is inserted and the patient is put to bed. The first thing the next morning the patient has a dose of a mild mercurial preparation which is repeated in a couple of hours, if necessary. The same thing is done the following morning, and the patient may be allowed to get up and move about. In the great majority of cases the patient can go about his business in a very few days, certainly less than a week. There is no serious hemorrhage. On only one occasion did a patient bleed profusely. Randell has not yet had to operate on a patient a second time, although several of them had been previously operated on by other methods before coming under his care.

Bulletin de l'Académie de Médecine, Paris.

37 (Year LXX, No. 26.) De la tuberculophobie et de quelques-uns de ses effets en médecine infantile. R. Saint-Philippe.
38 *Les anévrysmes des gros vaisseaux. Traitement par les injections sous-cutanées du serum gelatiné. Lancereaux.
39 *La maladie des scaphandriers (dangers of diving bells). Bolnet.
40 *Appendicite. Duret.

38. **Gelatin Injections for Aneurisms.**—Lancereaux believes that subcutaneous injections of gelatin are not only indicated in case of aneurism—even in apparently the most desperate cases—but that hesitation would be actually culpable. He describes 3 instructive cases. In the first there was an aneurism in the upper part of the abdominal aorta and another, a year later, in the lower part, both subsided under 20 injections of 200 gm. of a 7 per thousand solution of sodium chlorid containing 5 gm. of gelatin. The injections were made in the course of three months, every five or six days, the fluid being injected into the buttocks. He has made nearly 1,200 such injections in his hospital and private practice and has never witnessed any inconveniences, not even a local abscess, although a slight, transient rise in temperature was apparent in a few instances. He has sometimes increased the proportion of gelatin to 2.5 or 3.5 gm. per cent. In the second case reported, the aneurism protruded from the thorax, but the vessel sank back into place as the tumor shrank and hardened under the influence of 30 injections. Two years afterward the tumor recurred through overexertion, but again subsided under gelatin injections. In the third case the aneurism was in the ophthalmic artery, just beyond the arteria centralis retinæ. The exophthalmos, diplopia and visual disturbances all subsided under the injections of gelatin. He concludes from his own and others' experience that diffuse arteriosclerosis or endarteritis is only exceptionally followed by aneurism in the larger vessels. The trouble is due to periarteritis which burrows deeper and deeper and finally perforates the elastic membrane. Besides traumatism, the causes of this periarteritis are tuberculosis, syphilis and malarial infection. Rupture is the inevitable termination of the progressive lesion unless coagulation of the blood is promoted in some way. It rarely occurs spontaneously.

39. **Dangers of Working in Compressed Air.**—Boinet analyzes 12 fatal cases and 18 cases of permanent or temporary paralysis occurring in divers. One of the patients had seven different attacks of paralysis, the last rendering him entirely helpless. The predisposing conditions are evidently age above 45 or 50, pulmonary affections, fatigue, alcoholism, eating before going down into the water, excesses of all kinds, long continued work and the depth to which the diver descends, but the principal factor is the sudden change from compressed to ordinary air. If the change from the compressed to ordinary air can be made gradually, there is much less likelihood of trouble. Individuals working in compressed air should be on the lookout for special pains and slight signs of paralysis and should accept them as a warning. Boinet suggests rigorous administrative inspection of diving bells to see that they are in good working order at all times.

40. **Discussion of Operations for Non-existent Appendicitis.**—In the discussion of this subject Duret urged that the clinician must distinguish between: 1. Classic enterocolitis with pains in the cecum and appendix, but no special localization; 2, typhlo-colitis complicated with true appendicitis, and 3, primary appendicitis. Medical, non-operative treatment is indicated in the first, but appendicectomy is urgently required in the two other classes. He declared that the extraordinary frequency nowadays of intestinal affections (including cancer) may be due chiefly to the strenuous life and defective diet and hygiene, but possibly in part to the adulteration of foods and drinks or the use of preservatives, even if these consist merely of large quantities of boric or salicylic acid, adding: "Packers exist elsewhere than in Chicago, and our legislation on behalf of hygiene awaits its Roosevelt."

Presse Médicale, Paris.

41 (XIV, No. 52.) Entérocolite et appendicite. P. Reclus.
42 La rage et la capture des chiens errants (rabies and dog catching). H. Martel.

Semaine Médicale, Paris.

42½ (XXVI, No. 27.) *The Condition that Precedes Disease.—L'état d'imminence morbide. P. Londe.
43 (No. 28.) *De la valeur séméiologique des hémorrhagies occultes dans les affections de l'estomac. Oettinger and Girault.
44 *Conférence Internationale pour la revision de la convention de Genève. Rapport présenté au nom du Comité de rédaction de la Convention. L. Renault.

42½. **"State of Morbid Imminence."**—By this term Londe means a condition in which the organism is depressed from some cause, ready to succumb to the first infection or other malady for which opportunity offers. The diseases apparently most sudden in their onset always have had the way prepared for them by processes going on for days, weeks, months or years. He argues that a depression of the nervous system or clogging of the digestive tract invariably precede disease. By warding off this preceding condition of receptivity, the gates can be closed against the non-specific affections. Rest and dieting are the preventive measures that will ward them off, or attenuate their course if already established. Functional and total rest should be enforced in the early stages of even the simplest affection. Severity of dietetic treatment is the best means at our command to abbreviate the course of any lesion or affection. Instead of wasting strength in digestion, he says, it should be saved for recuperating purposes. Rest and semi-starvation will tide the patient over the "state of morbid imminence." It is especially important for infants, who, Londe believes, are habitually fed too much. Even the amounts given in the text-books are too large. Many an infant a year old thrives better on three-fourths of a liter of milk diluted with a liter of water, than on a liter of pure milk. In youth, rest for brain and muscles should always precede attempts at forced feeding. At least, relative rest should always be enforced. In the aged this necessity is likewise imperative. Rest in bed and restriction of the diet once a week or fortnight he considers an excellent measure for the aged and even for all adults. The benefits of major operations are in many instances, he thinks, due more to the enforced repose than to the operation itself.

43. **Differential Value of "Occult Hemorrhages" in Stomach Affections.**—This article confirms the importance of the discovery of invisible traces of blood in the stomach content

and stools as an aid in diagnosis and prognosis. Oettinger and Girault have been industriously applying the tests during the last eighteen months. They state that they found the Adler technic absolutely reliable and far more sensitive than the Weber and other tests. It shows the presence of blood even in a dilution of 1 to 250,000, while the guaiac test fails beyond a dilution of 1 to 20,000. With the Adler technic the sample of stool or stomach content is stirred with water to a thick paste. About 4 or 5 c.c. is then placed in a test tube and 1 c.c. of glacial acetic acid is added. After shaking the tube, about 2 c.c. of a freshly prepared concentrated solution of pure benzidin in 90 per cent. alcohol, heated, is added, and an equal amount of hydrogen dioxid. If there are even minimal traces of blood the color almost at once turns a deep green, which passes into a bluish green if there is much blood. The tint gradually fades into a dirty brown. For this test to be reliable, no meat should be eaten for two or three days beforehand, and no raw vegetables. Out of 54 tests on persons free from any lesion in the digestive tract, the test was constantly negative in 53. In the one positive case it was learned later that the patient had surreptitiously eaten some meat. Hemorrhoids, the pulling of a tooth, or an epistaxis, are also liable to induce a positive reaction in the absence of a gastrointestinal affection. Likewise the existence of a kidney lesion or cirrhosis of the liver may cause minimal hemorrhage in the digestive tract. The findings in the stools are more reliable than those in the stomach content, and may prove positive when the latter are negative. The occult hemorrhages are never encountered in healthy persons. In 11 cases of cancer of the stomach the findings were constantly positive in the hundreds of tests made. Certain forms of cancer are not accompanied by the occult hemorrhages, but these forms are extremely exceptional. In case of cancer, when the blood is once discovered it is constantly encountered, irrespective of treatment and diet. It was invariably present in all the cancer cases. Consequently, the constant absence of blood in the stools is strong presumptive evidence against the diagnosis of cancer. In case of gastric ulcer, the presence of occult blood in the stools is the rule here also, but the point that differentiates the ulcer from cancer, is that the findings are occasionally negative. Intermittent findings speak for ulcer. Deductions must not be too hasty. In one case the diagnosis wavered between a simple chronic ulcer or an ulcer in cancerous degeneration. The findings were constantly positive for a long time and the diagnosis of cancer seemed inevitable, when the blood abruptly vanished and the patient gradually recovered complete health. The occult hemorrhages will differentiate a neurosis from ulcer, although Oettinger and Girault state that it is possible for the two to be combined, as occurred in 2 cases in their experience. With the sensitive Adler test they found traces of blood frequently in the stools in cases of pure hyperchlorhydria. This confirms the view that it is the expression of a peculiar condition of the stomach mucosa which is liable to be accompanied by small ulcerations. They bleed a little and then quickly heal, but they are liable to pave the way for a genuine ulcer. The occult hemorrhages in such cases prove a valuable guide for treatment and hygiene. Two of their patients presented the symptoms of gastrosuccorrhea and the benzidin test was positive 12 times in 29 examinations in one, and 16 in 21 in the other case. The trouble in these cases was probably the result of an ulcer or ulceration in the stomach, probably near the pylorus, with spasm and relative constriction of the outlet. An argument in favor of this view is that as the general health and the local findings improved under treatment, rest in bed and dieting, the characteristic reaction in the stools gradually subsided. The value of the occult hemorrhages for the prognosis is shown in the cases in which the reaction is positive and constantly increasing in intensity although no other symptoms suggest impending perforation. They relate a typical instance of this kind. One great advantage of the discovery of the occult hemorrhages and their subsidence under treatment is that by repeating the tests the progress of the healing process can be accurately traced. This not only prevents accidents, but it enables the physician to tell how long the treatment must be continued and when it can be abandoned, thus relieving the patient of the annoying restrictions the moment they are no longer needed. If all this is true in regard to readily diagnosed ulcers, they exclaim in conclusion, how much more important and instructive are the findings in case of latent, unsuspected or unrecognized ulcers!

44. **Revision of the International Geneva Conference.**—See news columns on page 285 of THE JOURNAL, July 28.

Berliner klinische Wochenschrift.

45 (XLIII, No. 18.) Isolated Abscesses in Late Stages of Appendicitis.—Ueber das Auftreten isolierter Abscesse in den Spätstadien der Perityphlitis. M. Jaffé.
46 *Ueber schwere Anämien ohne Regeneration des Knochenmarks (without regeneration of bone marrow.) H. Hirschfeld.
47 *Causes of Coated Tongue.—Ursachen der belegten Zunge. Rollin.
48 *Operative Treatment of Detachment of Retina.—Zur Deutschmann's operativen Behandlung der Netzhautablösung. M. Goldbaum.
49 Medicolegal Features of Morphin Addiction.—Morphinisten vor dem Strafrichter. H. Marx.
50 Balneologic Treatment of Appendiceal Affections.—Trink- und Bade- Kuren bei Erkrankungen der Wurmfortsatzes. A. Loebel.
51 Ueber Angina pectoris. O. Burwinkel.
52 Changes in Relations Between Respiration and Pulse.—Ueber die Veränderung des physiologischen Verhältnisses zwischen Atmung und Pulsbeschaffenheit bei Herzkrankheiten und ihre Bedeutung für Prognose und Therapie. M. Siegfried.
53 Pathologie und Therapie des Morbus Basedowii. J. Jacob.

46. **Anemia With Degeneration or Atrophy of the Bone Marrow.**—Hirschfeld has observed 2 cases and reviews a few from the literature which presented the clinical picture of severe anemia without any signs of regeneration on the part of the bone marrow. He thinks such cases should be included in a group apart from normoblastic and megaloblastic anemias. The course was somewhat acute, nine months and four weeks in his cases. The hemorrhagic diathesis was pronounced and retinal hemorrhages were noted in all the cases.

47. **Causes of Coated Tongue.**—Rollin presents evidence to prove that the microscopic findings in the fasting stomach are identical with those of the tongue. He has also demonstrated that in case of hyperacidity the blood is nourished more than in normal conditions, and in case of lacking acidity, it is nourished less. The over-nourished blood induces hyperemia, increased metabolism and consequent throwing off of the superficial epithelium. In such conditions the tongue throws off its epithelium and appears red and clean. In case of lacking acidity, the metabolism is depressed and the epithelium is not thrown off but remains as a coating. The coated tongue is thus the result of anemia, and the anemia he ascribes to the lacking acidity in the stomach.

48. **Operative Treatment of Detachment of the Retina.**—Goldbaum extols the value of Deutschmann's method of operative treatment of detachment of the retina and urges its more general adoption. During the last fifteen years Deutschmann has operated on 210 patients with detachment of the retina, 25 per cent. have been definitely cured and 40 per cent. improved.

Deutsche medizinische Wochenschrift.

54 (XXXII, No. 25.) Chronic Inflammation of Appendix not a Prerequisite for Acute Attack.—Ist eine chronische Entzündung des Wurmfortsatzes die Vorbedingung für den akuten Anfall? L. Aschoff.
55 *Functions and Importance of Omentum.—Ueber einen Fall von rudimentären grossen Netz beim Menschen und über die Bedeutung des Netzes. P. Schiefferdecker.
56 *Die Behandlung der chronischen Darm-Katarrhe (intestinal catarrh). Th. Rosenheim. (Concluded.)
57 *Ueber Zuckerausscheidung im Urin bei kruppöser Pneumonie (sugar in urine). F. Rosenberger.
58 *Simplified Test for Uric Acid in Urine.—Eine vereinfachte Methode zur quantitativen Bestimmung der Harnsäure im Harn. A. Kowarski.
59 *Operationen an den Samenblasen (seminal vesicles). H. Riese.
60 *Ueber Perforation bei Ausschabung der Harnblase (in curetting bladder). A. Strauss.
61 Zur Theorie der typischen Degenerations—Krankheiten des Nerven-Systems. M. Benedikt.

55. **Functions of Omentum.**—The results of Schiefferdecker's researches corroborate those of others in respect to the important part played by the omentum in active protection. Its physiologic functions do not seem to be of much moment, its chief value evidently lying in its protection against pathologic conditions. He reports a case of rudimentary omentum found in the cadaver of a man of 50 who had succumbed to nephritis.

56. Treatment of Chronic Intestinal Catarrh.—In concluding this clinical lecture Rosenheim remarks that after successful treatment of chronic intestinal catarrh, the patients are left usually with an irritable intestine with a tendency to pains and diarrhea. He advises them to go to some watering place in the mountains, at an altitude between 1,500 and 4,000 feet, not too exposed, where there is plenty of sunshine and opportunity for comfortable strolls, especially places where there are natural warm baths or arrangements for hydrotherapy. It is important that they should be able to eat à la carte instead of being compelled to take the heavy dinner at night which is detrimental under all circumstances. The seashore is scarcely adapted for such patients, but a brief stay—three weeks at longest—may benefit certain obstinate cases of intestinal catarrh with neurosis if the patient refrains from bathing and avoids getting chilled by sitting or strolling on damp sand, and if the weather is favorable, but it is always an experiment.

57. Sugar in Urine During Pneumonia.—Rosenberger reports from von Leube's clinic 2 cases of croupous pneumonia in which the urine contained a carbohydrate of a still undetermined nature. No cause could be assigned for the glycosuria; it seemed to be independent of the food, temperature and course of the disease. Neither the amount, the specific gravity nor the aspect of the urine suggested the presence of sugar. When the urine for twenty-four hours is examined, the dilution is usually so great that even the most delicate tests are liable to fail to reveal the presence of the sugar. The glycosuria generally subsides spontaneously, although in certain cases a predisposition for alimentary glycosuria later may persist.

58. Simplified Test for Uric Acid.—Kowarski has simplified the Hopkins technic for quantitative determination of the uric acid in the urine. He describes the technic and states that no special instruments are required for it, that it takes much less time than the ordinary tests, and that only a small amount of urine is required.

59. Operations on Seminal Vesicles.—Riese has removed the seminal vesicles in 7 cases, operating through a transverse incision in the perineum. In 5 tuberculous cases the patients were restored to health although there were tuberculous lesions in the lungs and bacilli in the sputum. As the operations were performed in 1900 and 1901 a permanent cure may be assumed, at least of the genital tuberculosis. Another tuberculous patient succumbed five months after the operation to tuberculosis of the bladder. It is possible that the permanent catheter passed into the bladder through the incision may have carried the infection from the tuberculous prostate into the bladder. In some of his cases he removed the testicles and vasa deferentia with the seminal vesicles. In comparison with operations on the seminal vesicles according to Young's technic and that of others, he believes that the perineal route is preferable for various reasons. He has never witnessed any psychic disturbances in his patients; the lesions requiring the intervention are so severe that it is impossible to hope for retention of the genital functions. His patients had a smooth recovery in 2 cases in which the vasa deferentia alone were affected and were removed by this technic. In 2 others in which the seminal cords were removed by evulsion according to Bünger, miliary tuberculosis developed, rapidly fatal. His technic removes the testicles and then exposes the vas deferens by an incision, parallel to Poupart's ligament, upward to the ureter, then severs the vas between ligatures, and removes it with the testicle. The patient is then put in the lithotomy position and the seminal vesicles are removed through a transverse perineal incision. They are drawn down with the proximal end of the previously severed vas deferens. In 3 of his cases there was bilateral, advanced tuberculosis of both testicles with fistulas and extensive lesions in the seminal vesicles.

60. Perforation in Curetting Bladder.—Strauss comments on the case recently published by Stern in which perforation of the female bladder occurred during curettement. His catheter-spoon, he says, was devised exclusively for use in the male bladder. The bladder should not be curetted except under profound anesthesia. If this is impossible the curettement had better be dispensed with, unless under lumbar anesthesia.

Deutsche Zeitschrift f. Chirurgie, Leipsic.

Last indexed, page 355.

62 (LXXXI, Nos. 5-6.) Ueber die Erkrankungen des lymphatischen Gewebes und ihr Verhältnis zur Appendicitis. P. Klemm (Riga).

63 Komplikationen bei Perityphlitis von seiten der Blutgefässe (blood vessels). R. S. Hoffmann (Vienna).

64 Resultate der Epityphlitis-Behandlung. O. Kappeler (Constance).

65 Zur Aetiologie des Malum perforans pedis. J. Leval (Budapest).

66 *Cicatricial Tumor Studded with Fragments of Coal.—Eine mit Kohlestückchen durchsetzte Narbengeschwulst. W. Herberg (Breslau).

67 *Clamp Pincers Applied Preliminary to Suture.—Verwendung der Klemm-Technik in der Chirurgie nach dem Prinzip der fremdkörperfreien Klemmnaht. F. Schultze (Duisburg).

68 Koprostatische Dehnungsgeschwüre als Ursache von Darm-Perforation (ulcer from stretching of walls of intestine; perforation). A. Ebner.

69 *Stenose des Rektums bedingt durch ein verkalktes, ausgestossenes Uterus-Myom. E. Payr (Graz).

70 *Der plastische Ersatz des Septum cutaneum. E. Lexer (Königsberg).

71 Fall von Hernia pectinea Cloquetii incarcerata nach richtiger Diagnose operiert und geheilt. Axhausen (Kiel).

66. Cicatricial Tumor Studded With Scraps of Coal.—Herberg's patient was a woman of 40 who presented a tumor of melanotic aspect on the brow. It was extirpated on account of the suspicion of malignancy, and the discoloration was found to be due to scraps of coal. It was learned that as a child she had fallen into a coal hole and injured herself at the point where the tumor had developed. The case teaches the importance of removing all traces of foreign bodies after trauma, and also of removing any growth noticed at the point of a trauma, as it may assume malignant features.

67. Clamp Pincers for Suturing.—Schultze gives fifteen illustrations of the various ways in which he utilizes Roser's spring pincers as a preliminary to suturing. He applies a row of the pincers not more than half a centimeter apart. When the wound has thus been united and is ready to suture, he takes the sutures between the pincers. It simplifies the process of suturing to a remarkable extent, he says, and the tissues need not be touched with the fingers. A further advantage is the perfect adaptation of the edges of the wound, and the possibility it allows of using the finest suture material. His illustrations show the technic applied in suturing the head, stomach, intestines, appendix, palate, and in herniotomies, etc.

69. Stenosis of Rectum From Expelled Myoma.—In Payr's case the myoma had developed in the uterus and had been expelled, settling in the pouch of Douglas. It had become entirely calcified and had invaginated into the rectum, causing stenosis. It would probably have made its way through into the rectum before long. The patient was a woman of 70 and the tumor measured 8.5 by 7 by 5 cm. and weighed 180 gm.

70. Plastic Substitute for the Septum Cutaneum.—Lexer cuts a flap in the mucosa of the upper lip, its base close to the junction with the gum, the tip just short of the visible portion of the exposed part of the lip. The edges of the flap are then folded over above and sutured, forming a cylinder. A small slit is then cut through the lip at the base of the nose and the little cylinder is drawn through this hole and sutured in place in the nose to form the septum cutaneum. There is no visible defect left anywhere.

Münchener medizinische Wochenschrift.

72 (LIII, No. 18.) Ophthalmia Neonatorum.—Augenentzündung der Neugeborenen und einprozentige Höllensteinlösung. Leopold.

73 Zur Frage der Bildung spezifischer Leukotoxine im Blut-Serum als Folge der Roentgen-Bestrahlung der Leukämie, der Pseudoleukämie und des Lympho-Sarkoms. C. Klieneberger and H. Zoeppritz.

74 Protozoan Affections.—Ueber Protozoen-Blut-Krankheiten bei Mensch und Tier in Indien und Deutsch-Ostafrika. A. Treutlein.

75 *Why and to What Extent are Anesthetic Measures Useful in Inflammatory Processes?—Anästhesierende Mittel bei entzündlichen Prozessen. O. Rosenbach.

76 Zur Färbung der Spirochaete pallida (staining). F. R. M. Berger.

77 Transmission of Diphtheria by Third Persons.—Uebertragung von Diph. durch dritte Personen. P. Sittler.

78 Zuckerbestimmung im Harn mittelst einer Modifikation der Trommerschen Probe (test for sugar in urine). K. Simrock.
79 *Autointoxikation bei Pylorus-Stenose. R. Michaelis.
80 Zur Kasuistik der cerebralen Kinder-Pneumonie (brain pneumonia in children). A. Bittoroff.
81 Zur Hebotomie. L. Seeligmann.
82 *Zum Verhalten des Pektoral-Fremitus bei der kruppösen Lungenentzündung.—einige Bemerkungen über das Knistern bei derselben. J. Arneth. (Concluded.)

73. **Why and to What Extent Anesthetics are Useful in Inflammatory Processes.**—For some time, Rosenbach has been proclaiming the great value of anesthetics in the treatment of inflammatory processes. The anesthetic soothes the inflamed nerves and limits the excess of the biologic processes keeping up the vicious circle. Spiess has recently published a communication expatiating on the same subject summarized in these columns on page 1405 of the last volume. He prefers the local anesthetics, while Rosenbach lauds morphin as more effectual while allowing more accurate dosage. He believes that the benefit from carbolic acid and other measures in inflammatory processes—which has been attributed to their disinfecting power—is in reality due to their anesthetic action in reducing the reflex excitability, that is, reducing the abnormal excitability of the inflamed (the abnormally working) parts within normal proportions. Pain, he declares, is only one of the elements in this abnormal reaction of the inflamed parts, and it is soothed with the other elements when the excessive excitability is reduced by the general or local anesthesia. He theorizes to explain the phenomena observed, explaining that the favorable action of the anesthesia is restricted to those cases in which the reaction is excessive, just as the action of antipyretics is favorable only in case of excessive fever. The natural, useful reaction should not be interfered with any more than one would seek to prevent the reflex coughing caused by a foreign body in the throat.

79. **Autointoxication from Stenosis of the Pylorus.**—A woman of 46 with pronounced motor insufficiency of the stomach from incipient cancer was seized with convulsions and lay in coma for eight days after presenting various nervous and psychic irregularities. After a retrocolic gastroenterostomy all these symptoms subsided, suggesting that they had been the result of autointoxication from the stagnating stomach content although experiments on animals were negative.

82. **Fremitus in Pneumonia.**—In this long communication from von Leube's clinic, Arneth studies the physical signs in croupous pneumonia and especially the behavior of the vocal tactile fremitus. Its importance as an index of the actual condition of the lung, whether it is in the first, second or the third stage of the infectious process, is not yet fully appreciated. Its behavior is a most delicate test of the existing conditions in the lung, as he describes in detail.

Therapie der Gegenwart, Klemperer's, Berlin.
Last indexed XLV, page 692.

83 (XLVII. Nos. 1-2.) *Zur Behandlung der Pneumonie. A. Fraenkel (Berlin).
84 Ueber Digitalis-Behandlung. F. Umber.
85 Behandlung des Kropfes (golter). O. Hildebrand.
86 *Behandlung des Malum coxæ senile (Arthritis deformans of hip joint). A. Hoffa.
87 Das Gebiet-Organ und die Erkrankungen der Nase und des Nasenrachenraums (ear and nasopharyngeal affections). A. Passow.
88 Interne Behandlung der Basedowschen Krankheit. T. Brugsch.
89 *Behandlung der Frostbeulen (chilblains). C. Binz.
90 Ueber kombinierte Verordnung von Arzneimitteln (combined drugs). E. H. Kisch.
91 *Syphilitische Erkrankungen im Bereich der hinteren Schädelgrube (posterior cranial fossa). T. Ziehen.
92 *Salicyl-Therapie und Nephritis bei akutem Gelenk-Rheumatism. H. Päasler.
93 233 Gelenk-Rheumatiker ohne Salicyl-Präparate behandelt (articular rheumatism treated without salicylates). G. Hauffe.
94 Present Status of Streptococcus-Serum Therapy. F. Meyer.

83. **Treatment of Pneumonia.**—Fraenkel is convinced that the abnormally rapid pulse in certain fatal cases of pneumonia is due to the direct action of the pneumonia toxin on the heart, especially on its nervous apparatus. He has treated exceptionally severe cases of pneumonia with 4 gm. of an infusion of digitalis in 24 hours for three successive days, when commenced with the early symptoms. Caffein seems to answer a similar purpose with less danger of cumulative effects. It acts on the nerve centers regulating the heart action, and has proved remarkably useful in his hands in the severer cases. He uses a ten per cent. solution, injecting it every two or three hours to a total of 0.6 to 1.5 gm. in the course of twenty-four hours. In his extensive experience the caffein proved remarkably effectual in all cases in which the pulse was not over 130. The caffein did not affect the fever. Its action can be supplemented with camphor or alcohol at need. The details of several cases in which the patients were thus treated are appended.

86. **Treatment of Arthritis Deformans of Hip.**—Hoffa emphasizes the necessity for early recognition of this affection. A supporting apparatus should then be worn, to prevent further deformity. Mineral waters, physical therapy and ultimate resection of the deformed head may restore function in severe cases.

89. **Treatment of Chilblains.**—Binz states that the experience of many years has confirmed his opinion of the value of chlorinated lime in the treatment of chilblains. One gram of the chlorinated lime and 9 gm. of paraffin salve are well mixed and a piece the size of a bean is gently rubbed into the chilblain on retiring. It is protected with a simple dressing, and a sock is drawn over the foot. In less than a week all inflammation and pain subside unless the affection is of long standing. He advises the predisposed to bathe their feet in cold water daily during the summer and keep up the practice in the winter as a prophylactic measure.

91. **Syphilitic Affections in Posterior Cranial Fossa.**—Ziehen reports cases of four typical syndromes that may be induced by a syphilitic affection in this region. Treatment has to be exceptionally energetic as a speedily fatal issue is not infrequent. The mercury must be supplemented by sodium iodid on account of its quicker action and because some patients respond better to it. He gives from 4 to 8 gm. a day of sodium iodid and from 4 to 6 gm. of mercury in inunctions up to 8 or 13 gm. in threatening cases. He recently saved an almost moribund patient by pushing the daily dose of mercury to 20 gm. In one group a disturbance of the trigeminus domain was for a long time almost the only sign of trouble. In others, the acoustic nerve was the one predominantly affected. In another group the symptoms chiefly affected the larynx, palate and tongue from involvement of the ninth to the twelfth cranial nerves. The fourth syndrome is that caused by involvement of the superior cervical nerves and the spinal accessory.

92. **Salicylates and Nephritis in Articular Rheumatism.**—Päasler reports an experience which seems to show that the irritating action of the salicylates on the kidney can be obviated by simultaneous administration of an alkali to render the urine alkaline.

Therapeutische Monatshefte, Berlin.
Last indexed XLIV, page 1124.

95 (XIX. No. 4.) Die balneologisch-diätetische Behandlung der chronischen Diarrhoe. E. Gans.
96 Zur Therapie der Cholelithiasis. A. Hecht.
97 Ueber Zuckerproben (tests for sugar). Hecker.
98 Ueber chronische Entzündung der Blinddarmgegend (inflammation of cecum region). H. Herz.
99 Behandlung des vorzeitigen Haarausfalls (premature loss of the hair). E. Saalfeld.
100 Die percutane Iod-Applikation. G. Wesenberg.

Wiener klinische Wochenschrift.
Last indexed, page 314.

101 (XVIII. No. 50.) Digesting Faculty of Body Cells.—Ueber die Verdauungsfähigkeit der Körperzellen. F. Hamburger and E. Sluka.
102 *Zur Landry'schen Paralyse. J. Donath.
103 (No. 51.) Ueber die Indikation zur Appendektomie beim Ileocäkal-Schmerz (pain). Hochenegg.
104 *Ueber Metall-Strahlung (radiation). F. Streintz (Gratz).
105 Zur Frage der Tragfähigkeit der Bange'schen Amputations-Stümpfe (weight-bearing faculty). E. Ranzi and F. v. Auffenberg.
106 Zur Kenntnis der Fibularfrakturen. A. v. Khautz, jun.
107 (No. 52.) *To Detect Incipient Cancer.—Principiis obsta.
108 Withdrawal of Morphin in Severe Chronic Affections.—Ueber Morphinentziehung bei schweren chronischen Leiden. M. Schelmpflug.

102. **Landry's Paralysis.**—Donath's patient was a man of 26; malaria acquired four months before is incriminated in the etiology. The cerebrospinal fluid was extremely rich in fibrinogen and albumose. It solidified almost at once into a

jelly, but became more fluid as recovery progressed. Treatment consisted in administration of potassium iodid and ergot, and recovery was complete in a few months.

104. **Metal Radiation.**—Streintz reports experiments with polished sheet metal which demonstrated that certain metals have an unmistakable chemical action on their environment under certain conditions. They influence the electric conductibility of the air around them and make an impression on sensitized paper. He thinks that these phenomena are connected with beginning oxidation.

107. **To Detect Incipient Cancer.**—This article is an appeal to physicians at large for the earlier recognition of cancer. It is the work of a committee appointed by the Vienna medical society, and discusses the early symptoms of cancer in various parts of the body. The percentage of cures after removal is given as reported by various surgeons this proportion for mammary cancer progressively increasing from Billroth's statistics of 4.7 per cent. (1867-76) to von Bergmann's 28.79 per cent. (1882-99). Later statistics show permanent cure in an average of 42 per cent. In case of rectal cancer the proportion is from 33 to 50 per cent., and in cancer of the cervix, 34.7 per cent., with 75 per cent. for cancer of the corpus. Among the diagnostic points emphasized are the bloody urine in case of cancer of the urinary apparatus. The presence of mucus and blood in the stools, difficulty in defecation and constipation suggest cancer in the rectum, and the trouble should not be ascribed to hemorrhoids without careful digital examination in the knee-elbow or standing position. If the ampulla is gaping this suggests a high stricture. The general health may be excellent even with advanced cancer of the rectum, as the nourishment is not interfered with. This is also liable to be the case with genital cancer. Intermenstrual hemorrhage from the genitals when the uterus is touched suggest cancer. Pain is seldom an early symptom of cancer. Incipient cancer of the uterus can very rarely be diagnosed without microscopic examination of scrapings. Women should be educated to go to the physician to be examined during the menopause as they go to the dentist to have their teeth examined from time to time. There are no reliable signs of incipient cancer of the stomach, but the results of resection should encourage exploratory incision even on mere suspicion. A small incision according to Mikulicz may be regarded as harmless, and is frequently the only means to detect cancer in an operable stage. The absence of a palpable tumor never excludes the possible existence of cancer in the intestines.

Zeitschrift f. Krebsforschung (cancer research), Berlin.
Last indexed, page 315.

100 (IV, No. 1.) •Cancer on Mice.—Krebs der Mäuse. L. Michaelis (von Leyden's clinic, Berlin).
110 •Cancer in Stuttgart.—Die bösartigen Neubildungen in Stuttgart 1873-1903. Weinberg and Gastpar. (First part in Vol. II.)
111 Zur Morphologie der Mäusegeschwülste (mouse tumors). J. Erdheim (Vienna).
112 •Krebs und Wasser (cancer and water)? W. Pöppelmann.
113 3 Fälle von primärem Carcinom des Bauchfells (of peritoneum). O. Napp.
114 Experimentell bei Hunden erzeugte verimpfbare Tumoren nach Uebertragung von menschlichem Krebsmaterial (cancer on dogs from human material). C. Lewin
115 •Ueber Krebsangst (dread of cancer). Römer.
116 Conjugal Cancer.—Frage des Krebses der Ehegatten. Weinberg.
117 "Origin of Cancer." Reply to Krompecher. R. Borrmann.

109. **Cancer on Mice.**—Michaelis has been working with some tumor mice obtained from Jensen, and also with 20 mice with spontaneous tumors. Only 2 of the total number were found capable of transmitting the tumors. The race of mice that were susceptible to the Jensen tumors proved to be refractory to the tumors he obtained by inoculation, and vice versa, those susceptible to his tumors were refractory to the Jensen tumors.

110. **Cancer in Stuttgart.**—Among the conclusions of this extensive statistical work is that direct infection of cancer occurs so seldom as to be a negligible quantity. Nothing definite resulted from study of cancer houses, cancer localities, etc.

112. **Cancer and Water.**—Pöppelmann has been studying the topography of all cases of cancer known during the last twenty years in a town of 8,000 inhabitants, a total of 85 cases. The results of his research show that the houses which stood nearest to water courses and especially to stagnant water showed much the larger proportion of cancer cases. The principal focus proved to be the region near the back water from a dam. In one house a woman on the first floor and a couple above, all had cancer. In another house a gardener and his successor and a nurse who helped in the gardening; in another both sisters of a gardener and his tenant who also helped in the gardening; in another 2 middle-aged women and a letter carrier of 33 succumbed to cancer within a short space of time. He urges others to compile similar statistics, with maps, in regard to small towns where the conditions are better known than in cities, paying special attention to the brooks, rivers and dams.

115. **Cancer Phobia.**—Römer describes a case in which a supposedly normal woman was referred to a surgeon on account of suspicion of cancer from climacteric hemorrhages. Exploratory curettement revealed nothing malignant, but the woman's excitement and distress at the possibility of cancer left her permanently deranged. In other cases the dread of recurrence after an operation induces distressing cancer phobia. On the other hand, Römer remarks, physicians and cancer research societies seem to strive to increase the dread of the laity for cancer by publicly discussing its increasing frequency, the dangers of heredity, its parasitic origin, etc. The discussion of such matters within hearing of the laity fosters cancer phobia and adds still further to the wretchedness of an individual already affected with cancer. He remarks that mutual confidence between the family physician and the patient and between the physician and the surgeon will aid in reducing this cancer phobia.

Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

A PARASITE FOUND IN THE WHITE CORPUSCLES OF THE BLOOD OF PALM SQUIRRELS. By Captain W. S. Patton, M.B., I.M.S. Price annas 12, or 1s. 2d. Scientific Memoirs by Officers of the Medical and Sanitary Departments of the Government of India. No. 24. Issued under the authority of the Government of India by the Sanitary Commissioner with the Government of India. Simla, Calcutta: Office of the Superintendent of Government Printing, India, 1906.

MEDICAL JURISPRUDENCE, FORENSIC MEDICINE AND TOXICOLOGY. By R. A. Witthaus, A.M., M.D., Professor of Chemistry, Physics and Toxicology at Cornell University, and Tracy C. Becker, A.B., L.L.B., Counsellor at Law, Professor of Criminal Law and Medical Jurisprudence in the University of Buffalo. Second edition. Pp. 906. Price, $6.00. New York. Clothe. William Wood & Co., 1906.

REPORT OF THE DIRECTOR OF THE AQUARIUM TO THE BOARD OF MANAGERS AND REMARKS ON THE VALUE OF RADIOGRAPHS AS ZOOLOGICAL ILLUSTRATIONS. Illustrated with radiographs by Dr. H. G. Piffard, by Charles H. Townsend, director of the Aquarium. Paper. Pp. 23. Reprinted from the tenth annual report of the New York Zoological Society, 11 Wall St., New York, 1906.

A COMPEND OF MATERIA MEDICA, THERAPEUTICS AND PRESCRIPTION WRITING. By Samuel O. L. Potter, M.D., M.R.C.P., Lond., based on the eighth revision of the U. S. Pharmacopeia, including also many unofficial remedies. Seventh edition, revised and enlarged. Cloth. Pp. 292. Price, $1.00. Philadelphia: P. Blakiston's Son & Co., 1906.

MANUAL OF ANATOMY, Systematic and Practical, including embryology. Vol. 1, Osteology; Upper Limb, Lower Limb. By A. M. Buchanan, M.A., M.D., C.M., F.F.P.S., Glasgow, with 268 illustrations, mostly original and in colors. Linen. Pp. 596. Price, $2.75. Chicago: W. T. Keener & Co., 1906.

PRACTICE OF PEDIATRICS, in Original Contributions, by American and English Authors. Edited by Walter Leslie Carr, A.M., M.D. Illustrated with 190 engravings and 32 full-page plates. Cloth. Pp. 1014. Price, $6.00. Philadelphia and New York: Lea Bros. & Co., 1906.

MEDICAL AND PHARMACEUTICAL LATIN. By Reginald R. Bennett, Pharmaceutical Chemist, with an introduction by Henry G. Greenish, F.I.C., F.L.S. Cloth. Pp. 442. Price, $2.40. Philadelphia: P. Blakiston's Son & Co., London, J. & A. Churchill, 1906.

INTRODUCTION TO GENERAL INORGANIC CHEMISTRY. By Alexander Smith, Professor of Chemistry and Director of General and Physical Chemistry in the University of Chicago. Cloth. Pp. 780. Price, $2.25. New York: The Century Company. 1906.

PRESERVATIVES IN FOOD AND FOOD EXAMINATION By John C. Thresh, M.D. (Vic.), D. Sc. (Lond), F. I. C., and Arthur E. Porter, M.D., M.A. (Cantab). Cloth. Price, $4.50. Pp. 484. Philadelphia: P. Blakiston's Son & Co., 1906.

ILLUSTRATED KEY TO THE CESTODE PARASITES OF MAN, Hygienic Laboratory, Washington, D. C., by C. Wardell Stiles. Bulletin No. 25. Pp. 104. Paper. June, 1906.

THE FIRST ANNUAL REPORT OF THE NATIONAL FIRST AID ASSOCIATION OF AMERICA, 6 Beacon St., Boston. Paper. Pp. 51.

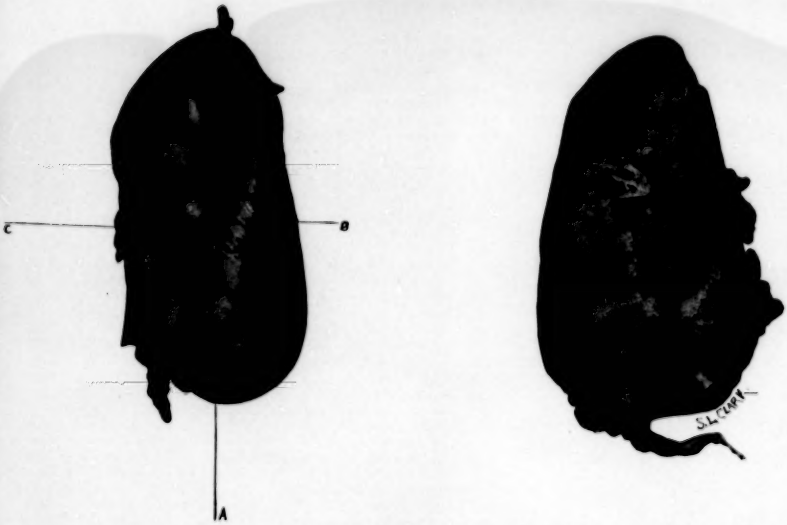

Fig. 1.—Keen's case. Two views showing external appearance and section of the tumor, slightly reduced in size. A, carotis communis; B, carotis interna; C, carot's externa.

Fig. 2.—Funke-Hearn's Case, No. 22. Appearance of a section of a fragment.